

ISBN : 978-81971077-9-5



St. Ignatius College of Education (Autonomous)

Accredited by NAAC at Grade A+ with CGPA 3.42 (Third Cycle)
Affiliated to Tamil Nadu Teachers Education University, Chennai
Palayamkottai-627002



IMPACT OF DIGITAL LITERACY ON LEARNING SKILLS OF RURAL SCHOOL STUDENTS

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April 2024



**Multi Spectrum Publications
Kanyakumari, Tamil Nadu**

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Multi Spectrum Publications

Kanyakumari, Tamil Nadu

Published by:  Multi Spectrum Publications

 Multi Spectrum Publications

No: 13/66, Thiruninarkurichy,

Ammandivilai Post-629204,

Kanyakumari, Tamilnadu, India.

Email: info@multispectrum.org

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Edition: 1st

Publication Year: 2024

Pages: 140

ISBN: 978-81-971077-9-5

Price: Rs.700

ACKNOWLEDGMENT

we would like to begin by expressing our deepest gratitude to God Almighty, whose boundless grace and guidance have been instrumental in the publication of this project book. It is through His infinite wisdom and blessings that this endeavour has come to fruition. We are profoundly thankful for the strength, inspiration, and clarity of thought that God has bestowed upon us throughout the journey of conceptualizing and writing this book. His divine presence has been a constant source of comfort and motivation, empowering us to overcome challenges and stay steadfast in our pursuit of knowledge.

First and foremost, I extend my thanks to the ICM management and our beloved secretary Rev. Sr. A. Gemma for providing the resources and facilities necessary for conducting research and compiling this project book. Her continued support has been indispensable.

Furthermore, we extend our deepest appreciation to our Principal Dr. L. Vasanthi Medona, whose invaluable guidance, encouragement, and expertise have been instrumental throughout every stage of this project. Her unwavering support and insightful feedback have truly enriched this work.

"We would like to extend our heartfelt gratitude to the financial supporters like Tiffy Tess N/P School Tuticorin, Dr Arul M.S.(ortho) CSI Jeyaraj Annapackiam Hospital, Mrs. D. Judith Dhinesh Bank manager of USA and Mr. K. Venkatachalam Rtd. RI whose generosity made the publication of this project book possible. Their unwavering support and dedication have been instrumental in bringing our vision to success. We are deeply thankful for their belief in our work and their commitment to advancing knowledge in this project.

We are grateful to all the academic and administrative staff of our college for their assistance and collaboration, which significantly enhanced the quality and depth of this project. Their willingness to share ideas and provide constructive criticism has been immensely beneficial.

I would like to acknowledge the contributions of our student teachers, Thanalakshmi II year Bio Science, A. Jemi Ruba II year mathematics, K. Lakshmi Prabha II year Physical Science, M. Seerin II year Mathematics, Solai Alagu Meenakshi II year Mathematics and J. Priya II year English for their assistance in data collection. Their participation has been greatly appreciated and has contributed to the overall success of this endeavour.

Lastly, I am deeply grateful to our family members for their unwavering love, encouragement, and patience throughout this journey. Their support has been our greatest source of strength and motivation.

This project would not have been possible without the collective effort and support of all those mentioned above. Thank you for being a part of this endeavour and for helping to bring it to fruition.

As we reflect on this achievement, we are humbled by God's abundant blessings. May His grace continue to illuminate our path and guide us in all our future endeavours.

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CHAPTER I

INTRODUCTION

1.1 INTRODUCTION

In recent years, the proliferation of digital technology has revolutionized various aspects of society, including education. While digital literacy has become increasingly essential in navigating the modern world, its impact on the learning skills of students, particularly those in rural areas, remains a topic of significant interest and concern (Timotheou, et. al. 2022). This chapter aims to explore the influence of digital literacy on the learning skills of rural school students, examining both the challenges and opportunities presented by the integration of digital tools and resources in educational settings.

In an era where technology pervades every aspect of our lives, digital literacy has emerged as a fundamental skill set for navigating the complexities of the digital age. From communicating with friends on social media to conducting research online and managing personal finances through digital platforms, the ability to effectively interact with digital technologies is essential for success in today's interconnected world (Hasyim and Arafah, 2022).

Digital literacy encompasses a broad range of competencies, including the ability to access and evaluate information critically, communicate and collaborate effectively using digital tools, and navigate the ethical and legal considerations inherent in digital environments. It is not merely about technical proficiency but also about developing the critical thinking, problem-solving and decision-making skills necessary to thrive in an increasingly digitized society (Erwin and Mohammed, 2021).

This introduction serves as a gateway into the multifaceted realm of digital literacy, exploring its significance, defining its scope, and setting the stage for an in-depth exploration of its various dimensions. As we embark on this journey, let us delve into the diverse facets of digital literacy, uncovering its transformative potential and empowering ourselves to navigate the digital landscape with confidence, competence, and creativity (Quraishi, et. al, 2023).

1.2 DEFINING DIGITAL LITERACY

Digital literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills (Gilster, 1997). Digital literacy encompasses the knowledge, skills, and attitudes required to effectively navigate, evaluate, and create digital content using various digital technologies. It involves the ability to access, comprehend, and critically assess information obtained from digital sources, as well as to communicate, collaborate, and problem-solve using digital tools

and platforms. At its core, digital literacy goes beyond mere technical proficiency with digital devices and software. It includes competencies such as information literacy, which involves the ability to locate, evaluate, and ethically use information from digital sources, and media literacy, which entails understanding how to critically analyze and interpret media messages in various forms, including text, images, and videos (Tiernan, et. al. 2023).

Digital literacy also encompasses skills related to digital citizenship, such as understanding one's rights and responsibilities in digital environments, respecting copyright and intellectual property rights, and practicing safe and ethical behavior online. Additionally, digital literacy involves the ability to adapt to new technologies and digital platforms, engage in lifelong learning, and harness the potential of digital tools for personal and professional growth (Milenkova and Lendzhova, 2021).

1.3 IMPORTANCE OF DIGITAL LITERACY

In today's interconnected world, digital literacy is not just a valuable skill, it is a prerequisite for full participation in society and success in the modern workforce. The importance of digital literacy extends far beyond the ability to use digital devices and software; it encompasses a broad range of competencies that are essential for navigating the complexities of the digital age (Voda, et. al, 2022).

Access to Information: Digital literacy enables individuals to access and evaluate vast amounts of information available online. With the ability to navigate digital resources effectively, individuals can stay informed, conduct research, and make informed decisions on a wide range of topics (Umar and Dangwaran, 2023).

Communication and Collaboration: Digital literacy facilitates effective communication and collaboration using digital tools and platforms. From email and instant messaging to video conferencing and social media, digital literacy empowers individuals to connect with others, share ideas, and collaborate on projects regardless of geographic location (Voda, et. al, 2022).

Critical Thinking and Problem-Solving: Digital literacy fosters critical thinking skills by enabling individuals to critically evaluate information, identify biases and misinformation, and discern credible sources from unreliable ones. It also promotes problem-solving skills by encouraging individuals to use digital tools to analyse data, solve complex problems, and make informed decisions (Gilmour, 2024).

Career Readiness: In today's digital economy, digital literacy is a prerequisite for success in the modern workforce. Employers increasingly value employees who possess strong digital skills, such as the ability to use productivity software, analyze data, and adapt to new

technologies. Digital literacy enhances employability and opens doors to a wide range of career opportunities in various industries (Singh, 2023).

Lifelong Learning: Digital literacy is essential for lifelong learning and personal development. In an era of rapid technological advancement, individuals must continuously update their skills and adapt to new technologies to remain competitive in the job market and navigate changes in society. Digital literacy empowers individuals to engage in lifelong learning through online courses, digital resources, and collaborative learning platforms (Bandura and Lea, 2022).

Digital Citizenship: Digital literacy promotes responsible and ethical behavior online, fostering good digital citizenship. By understanding issues such as privacy, security, cyberbullying, and digital rights, individuals can navigate digital environments safely and respectfully, contributing to a positive and inclusive online community (Singh, 2023).

Digital literacy is an essential skill set for navigating the complexities of the digital age. It empowers individuals to access information, communicate effectively, think critically, solve problems, succeed in the workforce, engage in lifelong learning, and be responsible digital citizens. As technology continues to shape our world, digital literacy will only become more important, underscoring the need for on-going efforts to promote digital literacy education for all.

1.4 THE EVOLUTION OF DIGITAL LITERACY

Digital literacy has undergone a significant evolution alongside the rapid advancement of technology and the increasing integration of digital tools into every aspect of our lives. From its early roots in basic computer literacy to its current multifaceted form, the evolution of digital literacy reflects both the expanding capabilities of technology and the changing needs of society.

Early Computer Literacy: In the early days of computing, digital literacy primarily revolved around basic computer skills, such as operating systems, word processing, and navigating user interfaces. Individuals needed to understand how to use hardware devices like desktop computers and floppy disks, as well as basic software applications (Gilster, 1997).

Internet and Information Literacy: With the widespread adoption of the internet in the 1990s, digital literacy expanded to include skills related to navigating the online world and accessing information. Internet literacy became essential for searching the web, evaluating the credibility of online sources, and understanding concepts such as URLs, hyperlinks, and search engines.

Media Literacy and Digital Citizenship: As digital media became increasingly prevalent, digital literacy evolved to encompass media literacy skills, including the ability to critically

analyse and interpret media messages in various forms, such as text, images, and videos. Digital citizenship also emerged as an important aspect of digital literacy, emphasizing responsible and ethical behaviour online, as well as understanding issues related to privacy, security, and online etiquette (Hasyim and Arafah, 2022).

Multimedia Literacy and Creativity: With the rise of multimedia technologies, digital literacy expanded to include skills related to creating and sharing digital content. Individuals learned how to use digital tools for multimedia production, including graphic design, video editing, and digital storytelling. Digital literacy also encompassed the ability to participate in online communities, share content on social media platforms, and engage in digital activism (Hasyim and Arafah, 2022).

Data Literacy and Computational Thinking: In the era of big data and artificial intelligence, digital literacy has evolved to include skills related to data literacy and computational thinking. Individuals need to understand how to analyze and interpret data, as well as basic programming concepts and algorithms. Computational thinking skills, such as problem-solving and logical reasoning, are increasingly important for navigating a data-driven world.

Lifelong Learning and Adaptation: In today's fast-paced digital landscape, digital literacy is not a static skill set but a continuous process of learning and adaptation. As technology continues to evolve, individuals must cultivate a mindset of lifelong learning and adaptability, staying abreast of new developments and acquiring new skills to thrive in the digital age (Alazie, et.al, 2019).

Evolution of digital literacy reflects the dynamic interplay between technology, society, and education. From basic computer skills to multimedia literacy, data literacy, and computational thinking, digital literacy has expanded to encompass a broad range of competencies that are essential for success in the digital age. As technology continues to advance, digital literacy will continue to evolve, shaping the way we interact with technology and the world around us.

1.5 DIGITAL LITERACY ACROSS THE LIFE SPAN

Digital literacy is a lifelong journey that begins in childhood and continues to evolve throughout adulthood and beyond. As technology becomes increasingly integrated into every aspect of our lives, from education and work to communication and entertainment, individuals of all ages must develop and refine their digital literacy skills to thrive in the digital age.

Early Childhood (Ages 0-5):

Introduction to Digital Devices: Even from a young age, children are exposed to digital devices such as tablets and smartphones. Early experiences with touchscreen interfaces and interactive apps lay the foundation for future digital literacy skills.

Digital Play and Exploration: Through age-appropriate digital games, apps, and educational software, young children begin to develop basic digital literacy skills such as hand-eye coordination, spatial awareness, and familiarity with digital interfaces.

Supervised Internet Use: Under adult supervision, children may start to explore age-appropriate websites and online resources, learning basic internet navigation skills and digital safety practices.

Childhood and Adolescence (Ages 6-18):

Formal Education: Digital literacy becomes an integral part of formal education, with students learning basic computer skills, internet research techniques, and digital citizenship principles. They also begin to use digital tools for academic purposes, such as word processing, multimedia presentations, and online collaboration.

Internet Safety and Responsible Use: As children gain more independence online, they receive education and guidance on internet safety, privacy protection, cyber bullying prevention, and responsible online behaviour (Gilster, 1997).

Coding and Computational Thinking: Some educational programs introduce students to coding and computational thinking concepts, preparing them for future careers in technology and fostering problem-solving and logical reasoning skills.

Adulthood (Ages 18-65+):

Workforce Readiness: Digital literacy becomes essential for success in the modern workforce, with employees needing proficiency in productivity software, digital communication tools, and data analysis platforms. Continuous learning and upskilling are necessary to keep pace with evolving technology trends and job requirements.

Digital Communication and Collaboration: Adults use digital tools and platforms for communication, collaboration, and networking in both personal and professional contexts. They may participate in online communities, social media platforms, and virtual workspaces (Hasyim and Arafah, 2022).

Media Literacy and Critical Thinking: With the proliferation of digital media, adults must develop critical thinking skills to navigate the vast amount of information available online, discern credible sources from misinformation, and evaluate the reliability and bias of digital content.

Older Adults (Ages 65+):

Digital Inclusion: As technology continues to play an increasingly central role in daily life, efforts are made to ensure digital inclusion for older adults. Digital literacy programs and

initiatives provide training and support to help older adults develop basic computer skills, navigate the internet safely, and stay connected with loved ones online.

Health and Wellbeing: Older adults may use digital tools and resources to manage their health and wellbeing, access telemedicine services, and stay socially engaged through online communities and video communication platforms (Hasyim and Arafah, 2022).

Digital literacy is a lifelong journey that spans across different stages of life. From early childhood through adulthood and into older age, individuals must continually develop and adapt their digital literacy skills to navigate the ever-changing digital landscape and participate fully in society. Digital literacy education and support programs play a crucial role in empowering individuals of all ages to thrive in the digital age (Alazie, et.al, 2019).

1.6 THE CHALLENGES OF DIGITAL INCLUSION

In an increasingly digital world, access to digital technologies and the skills to use them effectively are becoming essential for full participation in society. However, the digital divide gap between those who have access to digital technologies and the internet and those who do not remain a significant challenge to achieving digital inclusion. This divide disproportionately affects marginalized populations, exacerbating social inequalities and hindering opportunities for socioeconomic advancement.

1. Access to Technology: One of the primary barriers to digital inclusion is limited access to technology and the internet, particularly in rural and underserved communities. Many individuals lack affordable access to computers, smartphones, and broadband internet connections, preventing them from fully participating in the digital world (Gilster, 1997).

2. Digital Skills and Literacy: Even among those who have access to digital technologies, disparities in digital skills and literacy can pose significant barriers to digital inclusion. Many individuals, particularly older adults, people with disabilities, and those from low-income backgrounds, lack the skills and confidence to use digital devices and navigate online platforms effectively (Singh, 2023).

3. Language and Cultural Barriers: Language and cultural barriers can also impede digital inclusion, particularly for immigrant and non-native English-speaking populations. Limited availability of digital content and services in languages other than English can exclude non-English speakers from accessing vital information and resources online.

4. Affordability and Digital Poverty: The cost of digital devices, internet access, and data plans can be prohibitive for many individuals and families, leading to digital poverty—a lack of access to essential digital resources and opportunities. High costs can force individuals to

prioritize basic necessities over digital technology, further widening the digital divide (Gilster, 1997).

5. Accessibility and Disability Inclusion: Ensuring digital inclusion requires addressing accessibility barriers that may prevent people with disabilities from fully participating in digital activities. Digital content, websites, and software must be designed and developed with accessibility features that accommodate a diverse range of abilities and disabilities.

6. Education and Training: Comprehensive digital literacy education and training programs are essential for promoting digital inclusion. These programs should target underserved populations and provide hands-on instruction in basic computer skills, internet literacy, online safety, and digital citizenship.

Addressing the challenges of digital inclusion requires a multifaceted approach that encompasses policy interventions, community initiatives, and collaboration between government, industry, and civil society organizations. By expanding access to technology, promoting digital skills development, and fostering a culture of digital inclusion, we can work towards closing the digital divide and creating a more equitable and inclusive digital society for all.

1.7 IMPACT OF DIGITAL LITERACY ON LEARNING SKILLS

Information Access and Retrieval: Digital literacy facilitates efficient access to a vast array of digital resources, enabling learners to retrieve and evaluate information from various sources. Studies have shown that individuals with higher levels of digital literacy demonstrate improved abilities to search, filter, and critically evaluate online information (Hargittai & Hsieh, 2013). Enhanced information access empowers learners to engage with diverse perspectives, deepen their understanding of subjects, and make informed decisions.

Critical Thinking and Problem-Solving: Digital literacy is closely linked to critical thinking and problem-solving skills, as individuals navigate complex digital environments and assess the credibility and relevance of online content. Research suggests that digitally literate individuals exhibit greater critical thinking abilities, such as analysing information, identifying biases, and synthesizing diverse viewpoints (Livingstone, 2012). By leveraging digital tools and resources, learners can develop creative solutions to real-world problems and engage in collaborative inquiry.

Communication and Collaboration: The integration of digital technologies enhances communication and collaboration among learners, fostering interactive and participatory learning experiences. Digital literacy enables individuals to communicate effectively across digital platforms, utilizing various mediums such as email, social media, and video

conferencing (Warschauer, 2007). Through online collaboration tools and platforms, learners can engage in peer-to-peer learning, collaborative projects, and global knowledge sharing, expanding their perspectives and building valuable interpersonal skills.

Lifelong Learning and Adaptability: Digital literacy plays a pivotal role in fostering a culture of lifelong learning and adaptability in the digital age. By equipping individuals with the skills to navigate evolving technologies and information landscapes, digital literacy promotes continuous skill development and professional growth (Belshaw, 2011). Research suggests that digitally literate individuals demonstrate greater adaptability to technological advancements and changing learning environments, enabling them to thrive in the knowledge economy (Carretero et al., 2017).

Challenges and Considerations: While digital literacy offers numerous benefits for learning, challenges such as the digital divide, information overload, and digital misinformation pose significant barriers to equitable access and effective utilization of digital resources (Van Deursen & van Dijk, 2019). Addressing these challenges requires comprehensive strategies that promote digital inclusion, critical digital literacy skills, and ethical use of technology in education.

1.8 LEARNING SKILLS - INTRODUCTION

Learning skills are the foundation upon which successful education and personal development are built. They encompass a variety of cognitive, metacognitive, and behavioural strategies that enable individuals to acquire, process, retain, and apply new knowledge effectively. In this document, we will explore the essential components of learning skills, their significance in academic and professional endeavours, and practical strategies for enhancing them.

1.9 DEFINITION OF LEARNING SKILLS

Learning skills refer to the abilities and techniques that individuals employ to facilitate the learning process. These skills encompass a broad range of competencies, including but not limited to:

- **Study Techniques:** Methods for organizing information, understanding concepts, and preparing for assessments.
- **Memory Improvement:** Strategies for enhancing retention and recall of information.
- **Critical Thinking:** Skills for analyzing, evaluating, and synthesizing information to form reasoned judgments and solve problems.
- **Note-Taking:** Techniques for capturing and summarizing key points during lectures, readings, or discussions.

- **Time Management:** Practices for effectively allocating time to various tasks and responsibilities.
- **Self-Regulation:** Abilities to monitor and regulate one's learning behaviour, motivation, and emotional responses.

1.10 IMPORTANCE OF DEVELOPING EFFECTIVE LEARNING SKILLS

Effective learning skills are essential for academic success, professional growth, and lifelong learning. They empower individuals to:

- **Maximize Learning Efficiency:** By adopting efficient study techniques and time management strategies, individuals can optimize their learning process and achieve better outcomes with less effort.
- **Enhance Retention and Understanding:** Memory improvement techniques and critical thinking skills enable individuals to retain information more effectively and develop a deeper understanding of complex concepts (Higgins, 2007).
- **Promote Self-Regulated Learning:** Learning skills foster autonomy and self-regulation, empowering individuals to take ownership of their learning process, set achievable goals, and monitor their progress.
- **Facilitate Adaptation to Change:** In a rapidly evolving world, the ability to learn and adapt is crucial. Developing effective learning skills equips individuals with the resilience and agility to navigate new challenges and opportunities (Whitehill, 1972).
- **Foster Lifelong Learning:** Cultivating learning skills is not only beneficial for academic or professional success but also for personal enrichment and fulfilment. Lifelong learners continuously seek new knowledge and skills to enrich their lives and contribute to society.

Understanding Learning Styles

Learning styles refer to the preferred methods or approaches individuals use to acquire and process new information. While everyone has a unique combination of learning styles, they are often categorized into three main types: visual, auditory, and kinaesthetic. Understanding your learning style can help you tailor your study techniques to match your preferences and optimize your learning experience.

1.11 DIFFERENT LEARNING STYLES

- **Visual Learners:**
 - Visual learners prefer to learn through images, diagrams, charts, and spatial representations.

- They benefit from seeing information presented in a visual format, such as slideshows, videos, or written materials.
- Visual learners often have strong spatial reasoning skills and can easily visualize concepts (Mayer, 2017).
- **Auditory Learners:**
 - Auditory learners learn best through listening and verbal communication.
 - They prefer lectures, discussions, audiobooks, and podcasts as primary learning resources.
 - Auditory learners have a knack for remembering information presented through spoken words and may benefit from reading aloud or participating in group discussions.
- **Kinaesthetic Learners:**
 - Kinaesthetic learners learn best through hands-on activities, movement, and physical experiences.
 - They thrive in interactive environments where they can engage in practical experiments, role-playing, or tactile experiences.
 - Kinaesthetic learners benefit from incorporating movement into their learning process and may struggle with passive learning activities.

1.12 SELF-ASSESSMENT METHODS TO IDENTIFY INDIVIDUAL LEARNING STYLE

Learning Style Inventories: Online assessments and questionnaires can help you identify your dominant learning style by asking questions about your preferences, behaviors, and experiences in different learning situations.

Reflective Observation: Reflect on your past learning experiences and identify which methods or approaches were most effective for you. Pay attention to how you naturally engage with information and what activities you find most enjoyable and memorable (Mayer, 2017).

Experimentation: Try different study techniques and observe how well you understand and retain information using each method. Pay attention to your level of engagement, comfort, and effectiveness with each approach.

Feedback from Others: Seek feedback from teachers, peers, or mentors about your learning preferences and strengths. They may offer insights based on their observations of your learning style in various contexts.

1.13 STRATEGIES FOR TAILORING STUDY TECHNIQUES TO MATCH LEARNING STYLE

1. Visual Learners:

- Use visual aids such as diagrams, charts, graphs, and mind maps to organize information and facilitate understanding.
- Watch educational videos, animations, or documentaries related to the topic you're studying.
- Create colourful flashcards or visual mnemonics to reinforce key concepts and improve memory retention (Mayer, 2017).

2. Auditory Learners:

- Record lectures, discussions, or study sessions and listen to them repeatedly to reinforce understanding.
- Participate in group discussions, debates, or study groups to engage in verbal exchange and collaborative learning.
- Read aloud or recite important information to yourself to reinforce auditory memory.

3. Kinaesthetic Learners:

- Incorporate hands-on activities, experiments, or simulations into your study routine.
- Take breaks to move around, stretch, or engage in physical exercises to maintain focus and energy.
- Use manipulatives or tactile objects to represent abstract concepts and make learning more tangible.
- By identifying the learning style and adapting the study techniques accordingly, can enhance learning experience, improve retention, and maximize academic performance.

1.14. FACTORS AFFECTING LEARNING SKILLS

1. Confidence and Independence:

Self-Efficacy: Belief in one's ability to succeed in specific tasks or situations.

Autonomy: Taking ownership of one's learning process and making independent decisions.

Initiative: Being proactive in seeking out learning opportunities and taking action without external prompting.

Self-Regulation: Monitoring and managing one's own learning behaviour, emotions, and motivation.

2. Creativity:

Divergent Thinking: Generating multiple solutions or ideas to a problem.

Open-Mindedness: Being receptive to new ideas, perspectives, and experiences.

Imagination: Using mental imagery and visualization to explore possibilities and innovate.

Experimentation: Trying out new approaches, methods, or techniques to solve problems or express ideas (Durairaj, 2016).

3. Skills and Strategies:

Study Techniques: Employing effective methods for organizing information, understanding concepts, and preparing for assessments.

Time Management: Allocating time wisely to various tasks and responsibilities, prioritizing based on importance and urgency.

Critical Thinking: Analysing, evaluating, and synthesizing information to form reasoned judgments and solve problems.

Communication Skills: Expressing ideas clearly and effectively through written or verbal communication.

Collaboration: Working cooperatively with others to achieve common goals and share knowledge and resources (Higgins, 2007).

4. Knowledge and Understanding:

Content Knowledge: Acquiring factual information, concepts, principles, and theories relevant to a particular subject or field.

Deep Understanding: Going beyond surface-level comprehension to grasp the underlying principles and connections within a subject area.

Meta-Cognition: Awareness and understanding of one's own thought processes and learning strategies.

Interdisciplinary Connections: Recognizing and making connections between concepts and ideas across different disciplines or domains (Durairaj, 2016).

5. Reflection:

Metacognitive Reflection: Analyzing and evaluating one's learning process, strategies, and outcomes.

Critical Reflection: Questioning assumptions, biases, and beliefs to gain deeper insights and understanding.

Feedback Utilization: Actively seeking feedback from others and using it constructively to improve performance.

Goal Setting and Adjustment: Setting clear, achievable goals and periodically reflecting on progress and adjusting goals as needed.

These skills collectively empower individuals to become lifelong learners who are confident, independent, creative, and adaptable, capable of effectively navigating the complexities of learning and applying knowledge in diverse contexts (Durairaj, 2016).

1.15 SIGNIFICANCE OF THE STUDY

The impact of digital literacy on learning skills in rural students is significant. Digital literacy is the ability to effectively use digital tools and technologies to access, evaluate, create, and communicate information. In the context of rural students, the limited access to digital resources and the lack of digital skills poses challenges to their learning experience. Research has shown that digital literacy levels are scarce among rural students and teachers; limiting the skills they cannot develop to achieve effective online learning outcomes. Despite making up 65% of the country's population, India's rural population generates 25%–30% of the gross domestic product. Education and a paying job are required to raise this number (Sehgal foundation, 2023). The core issue, rural digital literacy, must be addressed for the human development objective to be realised. The goal of the effort is to integrate both the Indian people and government departments (Kailash Chandra Khandelwal, 2022). The goal is to transform the nation's economy into a digitally empowered one. The idea aims to improve digital literacy and connect rural communities to high-speed internet networks. Many obstacles are standing in the way of its successful implementation, including issues with taxation, insufficient infrastructure, slow internet, lack of collaboration amongst many authorities, and digital illiteracy (Dua 2018). Through the cutting-edge of digital literacy, rural populations' economic and social networks are strengthened, giving them more significant opportunities to live connected lives. Since illiteracy rates are disproportionately high among rural girls and women, it threatens productivity and health, hinders rural development and food security, and reduces opportunities for improving livelihoods and advancing gender equity. A person's understanding of the value of protecting their online information and the dangers of cyber-attacks is aided by their level of digital literacy. A greater connection to the rural environment, the chance to truly improve the lives of underprivileged pupils, increased influence over educational decisions, and freedom to experiment are the immediate need of the hour. The quality of education in rural areas includes infrastructure development, teacher training, the use of technology, community participation, rewarding teachers, awareness campaigns, and multilingual education.

A systematic review highlighted the digital gaps influencing the online learning of rural students in secondary education. The studies emphasize the skills developed by students and teachers in terms of digital literacy are limited. Improving digital literacy among rural students,

especially girls who may face gender-based discrimination, can open up new avenues for education and upskilling. Digital literacy can enhance their ability to navigate digital platforms and resources effectively.

In addition to student proficiency, the lack of digital literacy among teachers in rural areas is also a notable factor hindering digital literacy. Students in rural areas might be unaware or less aware of the digital literacy in using tools and strategies that can enhance their learning skills. Bridging the digital literacy gap among students in rural India is crucial to ensure effective integration of technology in the classroom. Since Digital literacy plays a crucial role in enhancing learning skills in rural students, this study is chosen to test the level of digital literacy among them and its impact on their learning skills.

1.16 STATEMENT OF THE PROBLEM

Rural school students often face limited access to digital resources, including computers, internet connectivity, and educational software, which can hinder their ability to develop digital literacy skills and access online learning materials. Due to limited access to technology and digital education opportunities, rural school students may lack the digital skills and literacy needed to effectively navigate digital environments, conduct online research, and utilize educational resources available on the internet (Singh, 2023). The absence of digital literacy skills among rural school students may adversely affect their academic performance, as they may struggle to keep pace with peers who have access to digital tools and resources for learning. This disparity in digital skills development may widen the achievement gap between rural and urban students. In the context of the COVID-19 pandemic and the shift to remote learning, rural school students without adequate digital literacy skills and access to technology faced significant challenges in participating in online classes, completing assignments, and engaging with digital learning platforms. Rural school students may have limited exposure to digital learning opportunities, such as online courses, educational apps, and virtual learning environments, which are increasingly becoming integral components of modern education. This lack of exposure may hinder their ability to develop 21st-century learning skills and adapt to the demands of a digital society. The impact of digital literacy on learning skills further exacerbates the digital divide between rural and urban communities. As digital technologies become increasingly integrated into education and society, rural school students risk falling further behind their urban counterparts in terms of digital skills development and access to educational opportunities. There is a pressing need for targeted interventions aimed at enhancing digital literacy among rural school students. Such interventions should focus on providing access to digital resources, delivering digital skills training, and fostering a culture

of digital inclusion in rural communities to ensure that all students have the opportunity to develop the necessary skills for success in the digital age.

Therefore this study aims to shed light on the challenges and opportunities associated with digital literacy development in rural school settings and provide insights into effective strategies for fostering digital inclusion and enhancing learning outcomes for rural school students. Ultimately, the findings of this study have the potential to inform educational policies, programs, and practices aimed at narrowing the digital divide and promoting equitable access to digital learning resources for all students, regardless of their geographic location.

1.17 TITLE OF THE STUDY

The study is entitled “IMPACT OF DIGITAL LITERACY ON LEARNING SKILLS OF RURAL SCHOOL STUDENTS”

1.18 OPERATIONAL DEFINITION OF IMPORTANT TERMS

DIGITAL LITERACY

Digital literacy refers to the ability to effectively navigate, comprehend, and utilize digital technologies and digital information in various contexts. It encompasses a broad range of competencies that enable individuals to critically engage with digital tools, platforms, and media, as well as to communicate, collaborate, and create digital content responsibly and ethically. Thus digital literacy empowers individuals to thrive in an increasingly digitized society by equipping them with the skills, knowledge, and attitudes needed to navigate the complexities of the digital age, critically evaluate digital information, communicate effectively in digital environments, and harness the transformative potential of digital technologies for personal, professional, and societal advancement.

In the context of the present study, digital literacy is defined as the ability of rural school students to effectively navigate, comprehend, and utilize digital technologies and information resources for learning purposes. This includes: a) The proficiency to use digital devices, software applications, and internet resources to access, create, and communicate information effectively. b) The ability to locate, evaluate, and ethically use information obtained from digital sources, including websites, databases, and online repositories. c) The capacity to critically evaluate and analyse digital content, discerning between credible and unreliable sources, identifying biases and misinformation, and synthesizing information to form reasoned judgments. d) The capability to apply digital tools and resources to solve problems, address challenges, and achieve learning objectives through strategic planning, experimentation, and adaptation. e) The understanding of ethical, legal, and social issues related to digital technology use, including online safety, privacy protection, cyber bullying prevention, and responsible

digital behaviour. The disposition to adapt to new technologies and digital platforms, engage in continuous learning and skill development, and leverage digital resources for personal and professional growth.

In the context of rural school settings, digital literacy encompasses not only the acquisition of technical skills but also the cultivation of critical thinking, problem-solving, and digital citizenship competencies necessary for success in the digital age. This definition acknowledges the multidimensional nature of digital literacy and its significance in empowering rural school students to thrive in a rapidly evolving technological landscape.

LEARNING SKILLS

Learning skills encompass a set of cognitive, metacognitive, and behavioural abilities that enable individuals to acquire, process, retain, and apply knowledge effectively. These skills are essential for successful learning and academic achievement across various domains and contexts. Learning skills involve both the acquisition of new knowledge and the development of strategies for organizing, synthesizing, and integrating information. They also include the ability to monitor and regulate one's own learning process, identify areas for improvement, and adapt learning strategies to different tasks and challenges.

In the context of the present study, learning skills refer to the cognitive, metacognitive, and socio-emotional competencies that facilitate effective learning and academic success among rural school students. These skills encompass a range of abilities and strategies that enable students to acquire, retain, and apply knowledge, as well as to engage in meaningful learning experiences both inside and outside the classroom. Learning skills in the present study play a crucial role in shaping students' learning experiences, academic achievement, and lifelong learning outcomes. By identifying and understanding these skills within the context of rural education settings, the study aims to inform interventions, programs, and policies that promote the development of learning skills and enhance educational opportunities for rural school students.

learning skills are foundational to academic success, professional development, and lifelong learning, empowering individuals to adapt to new challenges, acquire new knowledge, and thrive in a constantly evolving world. Cultivating and honing these skills enables individuals to become independent, self-directed learners capable of achieving their goals and fulfilling their potential across various domains of life.

RURAL SCHOOL STUDENTS

Rural school students refer to individuals who attend educational institutions located in rural areas, typically characterized by low population density, agricultural or natural landscapes, and

limited access to urban amenities and resources. These students may come from families residing in rural communities, villages, or remote regions, and they attend schools that serve these areas rural school students represent a diverse and vibrant population with unique characteristics, experiences, and challenges shaped by their rural environment. Understanding and addressing the needs of rural school students is essential for promoting equitable access to quality education and fostering the success and well-being of all students, regardless of their geographic location.

In this present study rural school students are defined as students studying IX Std in educational institutions located in rural or remote areas characterized by low population density, limited access to infrastructure and resources, and a predominantly agrarian or natural resource-based economy. These students may attend primary, secondary, or tertiary educational institutions, including public schools, private schools, and community-based learning centres, situated in rural communities or small towns

1.19 OBJECTIVES OF THE STUDY

1. To study the level of digital literacy among rural school students.
2. To assess the level of digital literacy among rural school students, considering various background variables such as gender, medium of Instruction, type of family, educational qualification of father, educational qualification of mother, occupation of father, occupation of mother and family monthly income .
3. To examine the relationship between gender and digital literacy dimensions information processing, content creation, communication, safety, and problem-solving among rural school students, to identify any significant differences and potential areas for targeted interventions.
4. To investigate the impact of the medium of instruction on digital literacy and its dimensions information processing, content creation, communication, safety, and problem-solving among rural school students, aiming to uncover potential disparities and inform educational policies regarding language and instructional methods.
5. To explore the interaction of type of family on digital literacy and its dimensions information processing, content creation, communication, safety, and problem-solving among rural school students, aiming to develop a comprehensive understanding of the factors influencing digital literacy levels and identify strategies for promoting equitable access to digital education resources.

6. To analyze the correlation between fathers' educational qualifications and the various dimensions of digital literacy such as information processing, content creation, communication, safety, and problem-solving among rural school students, with a focus on understanding how differing levels of paternal education influence digital skill development in this demographic (Singh, 2023).
7. To explore the impact of mothers' educational qualifications on the digital literacy levels of rural school students, encompassing dimensions such as information processing, content creation, communication, safety, and problem-solving, in order to understand the role of maternal education in shaping digital competencies in rural settings.
8. To investigate the association between fathers' occupation and the digital literacy proficiencies of rural school students, considering dimensions such as information processing, content creation, communication, safety, and problem-solving, to identify potential influences of paternal occupational factors on digital skill acquisition within this context (Singh, 2023).
9. To examine the relationship between mothers' occupation and the digital literacy capabilities of rural school students, focusing on dimensions such as information processing, content creation, communication, safety, and problem-solving, in order to discern the impact of maternal occupational variables on digital competency development in rural educational environments.
10. To examine the influence of family income on digital literacy and its constituent dimensions information processing, content creation, communication, safety, and problem-solving among rural school students. This is to gain a comprehensive understanding of the factors shaping digital literacy levels and to propose strategies for ensuring fair access to digital education resources.
11. To evaluate the comprehensive proficiency in learning skills among rural school students, encompassing various cognitive, social, and emotional aspects.
12. To investigate the influence of background variables, such as gender, medium of instruction, family structure, parental educational qualifications, parental occupations, and family monthly income, on the level of learning skills among rural school students.
13. To analyze potential disparities in learning skills and their dimensions reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity between male and female rural school students, aiming to identify any gender-related patterns in educational attainment.

14. To focus on examining differences in learning skills and their dimensions reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity based on the medium of instruction utilized in rural schools, with the aim of understanding the impact of instructional methods on student learning outcomes.
15. To investigate potential variations in learning skills and their dimensions reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity among rural school students based on the type of family they belong to, aiming to understand the impact of familial dynamics on educational outcomes.
16. To examine the correlation between fathers' educational qualifications and learning skills, including its various dimensions, among rural school students, with the objective of understanding the role of paternal education in shaping academic abilities.
17. To focus on exploring the relationship between mothers' educational qualifications and learning skills among rural school students, which helps to assess the influence of maternal education on academic abilities and progression in skill development.
18. To investigate the association between fathers' occupation and learning skills, including its dimensions, among rural school students, aiming to understand how paternal employment status affects educational outcomes and skill acquisition.
19. To identify any significant association between mothers' occupation and learning skills, including its dimensions, among rural school students, aiming to comprehend the influence of maternal employment on expansion of different skills.
20. To determine the existence of a significant association between family monthly income and learning skills, including its dimensions, reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity among rural school students, aiming to understand the impact of socioeconomic status on learning and skill development.
21. To investigate the significant relationship between digital literacy levels and learning skills among rural school students, with the objective of understanding how proficiency in digital competencies correlates with advancing skills.
22. To explore the significant influence of digital literacy on learning skills among rural students, aiming to assess the extent to which digital proficiency contributes to academic achievement and skill development in rural educational settings

1.20 HYPOTHESIS

1. The level of digital literacy among rural school students is moderate
2. The level of Digital Literacy of Rural School students regarding the background variables. such as gender, medium of Instruction, type of family, educational qualification of father, educational qualification of mother, occupation of father, occupation of mother and family monthly income is moderate.
3. There is no significant difference between digital literacy of Rural School Students and its dimensions: Information processing, Content creation, Communication, Safety and Problem-solving with reference to gender.
4. There is no significant difference between digital literacy of Rural School Students and its dimensions: Information processing, Content creation, Communication, Safety and Problem-solving with reference to medium of instruction
5. There is no significant difference between digital literacy of Rural School Students and its dimensions: Information processing, Content creation, Communication, Safety and Problem-solving with reference to type of family.
6. There is no significant association between fathers' educational Qualification and Digital Literacy and its dimensions Information processing, Content creation, Communication, Safety and Problem-solving of Rural School Students.
7. There is no significant association between mothers' educational Qualification and digital literacy and its dimensions Information processing, Content creation, Communication, Safety and Problem-solving of Rural School Students.
8. There is no significant association between fathers' occupation and digital literacy and its dimensions Information processing, Content creation, Communication, Safety and Problem-solving of Rural School Students.
9. There is no significant association between mothers' occupation and digital literacy and its dimensions Information processing, Content creation, Communication, Safety and Problem-solving of Rural School Students.
10. There is no significant association between family monthly income and digital literacy and its dimensions Information processing, Content creation, Communication, Safety and Problem-solving of Rural School Students.
11. The level of Learning Skills of Rural School Students is moderate.
12. The level of Learning Skills of Rural School Students regarding the background variables such as gender, medium of Instruction, type of family, educational

- qualification of father, educational qualification of mother, occupation of father, occupation of mother and family monthly income is moderate.
13. There is no significant difference between Learning Skills of Rural School Students and its dimensions: reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity with reference to gender.
 14. There is no significant difference between Learning Skills of Rural School Students and its dimensions: reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity with reference to medium of instruction.
 15. There is no significant difference between Learning Skills of Rural School Students and its dimensions: reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity with reference to type of family.
 16. There is no significant association between Fathers' Educational Qualification and Learning Skills and its dimensions of Rural School Students.
 17. There is no significant association between Mothers' Educational Qualification and Learning Skills and its dimensions of Rural School Students.
 18. There is no significant association between fathers' occupation and Learning Skills and its dimensions reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity of Rural School Students.
 19. There is no significant association between mothers' occupation and Learning Skills and its dimensions reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity of Rural School Students,
 20. There is no significant association between family monthly income and Learning Skills and its dimensions reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity of Rural School Students.
 21. There is no significant relationship between digital literacy and Learning Skills among Rural School Students.
 22. There is no significant influence of digital literacy and learning skill among rural students.

1.21 LIMITATIONS OF THE STUDY

Despite efforts to conduct rigorous research, the study has inherent limitations that may impact the interpretation and generalizability of its findings. In the present study on the impact of digital literacy on learning skills of rural school students, several potential limitations should be acknowledged:

The study has a limited sample size, potentially restricting the generalizability of the findings to broader populations of rural school students. Additionally, the sample may not fully represent the diversity of rural communities, leading to potential biases in the results.

The study's sample may be subject to selection bias, as participation may be voluntary.

The measurement tools and instruments used to assess digital literacy and learning skills may have limitations, such as reliance on self-report measures or subjective assessments, which could introduce measurement error and affect the accuracy of the results.

The study is conducted within a specific timeframe, limiting the ability to capture long-term trends or changes in digital literacy and learning skills over time.

The study's findings may be influenced by contextual factors specific to the research setting, such as regional differences in educational policies, socioeconomic conditions, and access to resources. These contextual factors may limit the generalizability of the findings to other rural communities or educational contexts.

1.22 DELIMITATION OF THE STUDY

According to the availability of resources and time, the investigator delimited the study in the following manner.

The area of the present study is delimited to Tirunelveli, Tenkasi and Tuticorin Districts only

The study is limited to only five rural schools.

The study is limited to the following background variables like gender, medium of instruction, type of Family, Educational qualification of parents, Occupation of parents and Family monthly Income only.

1.23 CONCLUSION

In conclusion, the integration of digital literacy holds immense potential for enhancing the learning skills of rural school students. By addressing the challenges of access and adoption, educators can leverage digital technology to create engaging and interactive learning environments that empower students to thrive in the digital age. Through strategic implementation and ongoing support, rural schools can ensure that all students have the opportunity to develop the digital literacy skills necessary for success in school and beyond.

CHAPTER – II

REVIEW OF RELATED LITERATURE

2.1. INTRODUCTION

Literature review is like the foundation upon which the rest of the work is build. It is a specific and reproductive method used to identify, select and appraise all the studies of a previously agreed level of quality that are relevant to the study (Booth, Papaioannou, & Sutton, 2012). In addition to providing a better visual depiction of a phenomenon, the related literature can be very helpful in gaining concentration and clarity on important topics like phenomena. It allows researchers to learn about the findings of previous studies in addition to helping them understand the opinions of people who are interested in a specific study subject (Fraenkel & Wallen, 2006). The researcher can reduce the possibility of duplication, formulate the problem, evaluate the current study's findings, and compare them with those of the reviewed studies with the assistance of a review of related literature. It guarantees that superfluous duplications are avoided and fosters a deeper comprehension of the issue and its essential components.

2.2 IMPORTANCE OF REVIEW OF RELATED LITERATURE

Conducting a review of related studies is crucial for several reasons:

- a. **Establishing Scholarly Context:** A review of related studies helps researchers situate their work within the broader academic context. By examining existing literature, researchers gain insights into the historical evolution of the topic, key concepts, debates, and theories relevant to their study. This establishes a foundation of knowledge upon which the current research builds.
- b. **Identifying Gaps and Research Questions:** Through a comprehensive review, researchers can identify gaps, inconsistencies, and unresolved issues in the existing literature. This process helps refine research questions and hypotheses, guiding the focus of the current study and ensuring it addresses significant gaps or contributes new insights to the field.
- c. **Informing Methodological Decisions:** Reviewing related studies allows researchers to evaluate various research methodologies and approaches employed in prior research. By assessing the strengths and limitations of different methods, researchers can make informed decisions about the most appropriate research design, data collection techniques, and analytical approaches for their own study.
- d. **Avoiding Redundancy and Replication:** A thorough review helps researchers avoid duplication of effort by identifying what has already been studied and published. This

prevents redundancy and ensures that the current study adds value to the existing body of knowledge by focusing on unexplored aspects or offering novel perspectives.

- e. **Validating Results and Interpretations:** By comparing findings across multiple studies, researchers can assess the robustness and generalizability of research results. Consistent findings across studies provide greater confidence in the validity of conclusions, while conflicting results may indicate areas requiring further investigation or methodological refinement.
- f. **Facilitating Synthesis and Integration:** Synthesizing findings from multiple studies enables researchers to develop a more comprehensive understanding of the topic. This process allows for the integration of diverse perspectives, theories, and empirical evidence, leading to richer insights and more nuanced interpretations.
- g. **Contributing to Knowledge Development:** Through a review of related studies, researchers contribute to the advancement of knowledge in their field. By identifying gaps, proposing new hypotheses, or synthesizing existing findings, researchers generate new avenues for inquiry and stimulate intellectual discourse within the academic community.

2.3 OBJECTIVES OF REVIEW OF RELATED LITERATURE

The objectives of a review of related studies are integral to the research process, guiding researchers in establishing the scholarly context, refining research questions, evaluating methodologies, synthesizing findings, validating results, generating new insights, and informing future research directions. The objectives of conducting a review of related studies are multifaceted and encompass several key goals:

1. **To Establish Context:** The primary objective is to provide a comprehensive overview of existing literature relevant to the research topic. This involves identifying seminal works, key concepts, theories, and debates that have shaped the field. By establishing the context, researchers ensure that their study is grounded in a solid understanding of prior scholarship.
2. **To Identify Gaps and Research Questions:** A crucial objective is to identify gaps, inconsistencies, and unanswered questions in the existing literature. By critically analyzing prior studies, researchers can pinpoint areas where further research is needed or where contradictory findings exist. This process helps refine research questions and hypotheses, guiding the direction of the current study.
3. **To Evaluate Methodologies and Approaches:** Another objective is to evaluate the methodological approaches used in previous research. Researchers assess the strengths

and limitations of various research methods, sampling techniques, data collection procedures, and analytical frameworks employed by previous studies. This informs decisions about the most appropriate research design and methodology for the current study.

4. **To Synthesize Findings:** A key objective is to synthesize findings from multiple studies to develop a comprehensive understanding of the research topic. By comparing and contrasting results across different studies, researchers identify patterns, trends, and consistencies, as well as areas of divergence or contradiction. This synthesis allows for a nuanced interpretation of the existing evidence and facilitates the integration of diverse perspectives.
5. **To Validate Results and Interpretations:** An important objective is to assess the robustness and generalizability of research findings. Researchers critically evaluate the methodology, data analysis, and interpretation of results in previous studies to determine the reliability and validity of conclusions. Consistent findings across studies enhance confidence in the validity of results, while conflicting findings may indicate areas requiring further investigation or methodological refinement.
6. **To Generate New Insights and Perspectives:** The review aims to generate new insights, perspectives, or theoretical frameworks that contribute to knowledge development in the field. By synthesizing existing literature and identifying gaps, researchers may propose new hypotheses, conceptual models, or research paradigms that advance understanding of the research topic.
7. **To Inform Future Research Directions:** Finally, the review aims to inform future research directions and priorities. Researchers identify areas where further investigation is needed, propose recommendations for methodological improvements, and highlight opportunities for theoretical development. This helps guide the trajectory of future research endeavors and fosters continued growth and innovation in the field.

2.4. STUDIES RELATED TO DIGITAL LITERACY

Blackall (2005) assessed the effects of digital literacy teaching practices and networked learning futures - a proposal for action research. Digital media and internet connectivity continue to offer significant opportunities for learning and so a new form of literacy is becoming increasingly important in Australian society. Educational organisations need to be able to respond to current and future literacy needs in their communities and is in a position to both recognise and take advantage of the new opportunities for learning. As information and communications technologies continue to develop, at times changing radically, educational

organisations need to be flexible and sustainable in their approach to these technologies. Flexibility and sustainability can be achieved through community-wide participation in ongoing action research, enhanced by the educational organisation's support for a wider range of software and hardware – afforded by free and open-source software, and through encouragement to engage with open and internationally networked communications and information exchange.

Jones & Flannigan (2006) state that the digital and visual literacies are considered as “the next wave of communication specialization” where we understand that the majority of people have easy access to technologies to not just communicate, but “to create, to manipulate, to design, to self-actualize”. Also, they highlight that digital literacy as people may understand is the ability of an individual to perform tasks using digital platforms. Literacy associated with the developing technology of education has been earmarked by electronic literacy, silicon literacy, e-literacy, techno-literacy, and later the literature has converged the concept of digitalization. They also add that the biggest challenge nowadays is to evolve from the glitz of the flashy technologies and to teach true literacy in the new milieu of the globalised era. It is also declared in the paper that even though we have been using similar competences and skill sets that included - analysis, synthesis, and evaluation, we now must explore digital literacy as another realm within which we need to apply elements of critical thinking.

Khirwadkar (2007) stated that teachers play a pivotal role in the teaching-learning process. The knowledge of ICT in the whole teaching and learning is a major element of the education process. There has been an indication that teachers may sometimes have a positive attitude towards technology, but they may not feel comfortable using it as they may think or consider that they do not have appropriate qualifications for it. It was also emphasized that as the knowledge about computer technology is constantly changing therefore the knowledge associated with technology needs to be updated with time especially by the educators. Other than that, there are many other dimensions such as attitude, computer anxiety, motivation, and computer self-efficacy which can play a role in the development of the overall digital literacy of the teacher. Proper teacher training can enhance ICT skills and help in appropriating knowledge amongst them. ICT skills development, ICT pedagogy, subject-specific and practice approaches should be integrated into teacher-training development programs for the development of 21st-century skills. It is evident that the teacher’s self-efficacy has a high positive correlation with their academic achievement and higher level of commitment to the role of being a teacher.

Ameen & Gorman (2009), aimed to explore the overall state of information and digital illiteracy (IDL) in developing countries and how it hampers the growth of individuals and nations. The case of Pakistan is to be used as an example to illustrate the endemic state of poor information and digital literacy. It also aims to discuss the general drawbacks to effective IDL in developing Asian countries. To achieve the objectives of the study, the literature review and result of Pakistan based surveys are used to indicate the state of IDL among university students and faculty. It was found that in Pakistan, as elsewhere, IL/IDL practice and training are not the norm in libraries or in education; they are not operational priorities. The low level of IL/IDL among the educated classes contributes to the status quo of information illiterate citizens. It also establishes that becoming “critical consumers” of information is essential for personal and national development.

Covello and Lei (2010) presented a review of digital literacy assessment instruments. Selecting the best assessment instrument for Digital Literacy involves consideration of many factors, including approach, feasibility, implementation, scope, reporting structure, and cost, as well as consideration of output needs and social context. As the population of students and their respective Digital Literacy skills evolve – as will the network systems upon which they operate – we may also expect that Digital Literacy assessment instruments will continue to develop to measure the competences needed to succeed in educational environments.

Tyger (2011) investigated perceived digital literacy levels and technology integration of pre-service teaching (PST) candidates. This study used a quantitative approach and findings revealed that student without digital agency was marginalized and could not achieve educational equity.

Belshaw (2011) explored what is ‘digital literacy’? This study drew out three main contributions to the research area. First, considering a plurality of digital literacies helps avoid some of the problems of endlessly-redefining ‘digital literacy’. Second, abstract eight essential elements of digital literacies from the research literature which can lead to positive action. Finally, co-constructing a definition of digital literacies (using the eight essential elements as a guide) is at least as important as the outcome.

Gui & Argentin (2011) outlined the main results and methodological challenges of a large-scale survey on actual digital skills. A test covering three main dimensions of digital literacy (theoretical, operational and evaluation skills) was administered to a random sample of 65 third-year high school classes, producing data on 980 students. Items include knowledge questions, situation-based questions, and tasks to be performed online. A Rasch-type model was used to score the results. Through a robust regression analysis, they investigated if a skill

divide based on descriptive differences, gender and family cultural background exists among the students. The results revealed that cultural background has a significant effect, which is stronger on operational skills, while gender shows a more definite impact on theoretical knowledge.

Riel (2012) conducted a study to assess how digital library empowers mass participation in the United States. Data from a nationally representative survey was used for the study. Results revealed that the strength of digital literacy skills empowered public for social networking participation, political participation & online social activities.

Wan (2012) investigated the knowledge about educational technologies of a group of undergraduate students studying the course introduction to e-learning at a university in Australia and how they adopt unfamiliar technologies into their learning. The study explores the ‘digital nativeness’ of these students by investigating their degree of digital literacy and the ease with which they learn to make use of unfamiliar technologies. The findings show that the undergraduates were generally able to use unfamiliar technologies easily in their learning to create useful artifacts. They need, however, to be made aware of what constitutes educational technologies and be provided with the opportunity to use them for meaningful purposes. The self-perception measures of the study indicated that digital natives can be taught digital literacy.

Lesseig (2012) analyzed the literature that contained research regarding digital literacy teaching strategies, effective professional development for digital literacy and the current status of digital literacy in education. The study used a qualitative, inductive analysis technique. The findings suggested several different teaching strategies to develop meaningful digital skills and showed how professional development can make an impact on how teachers can implement these strategies.

Brown (2013) discussed the need for integrating a focus on digital literacy and digital ethics into sustainability education, proposing a conceptualization of these for sustainability education. The paper draws on relevant literature in the field of sustainable education and in the field of digital literacy and digital ethics. The findings conceptualize “digital literacy” as a capacity to reflect on the nature of digital space in relation to sustainability challenges and “digital ethics” as a capacity to reflexively engage with digital space in ways which build rich discourses around sustainability. Critically reflective and exploratory activities in digital space are a means of developing these capacities.

Park (2013) examined the impact of three dimensions of digital literacy on privacy-related online behaviors: (a) familiarity with technical aspects of the Internet, (b) awareness of common institutional practices, and (c) understanding of current privacy policy. Hierarchical

regression models analyzed data from a national sample of 419 adult Internet users. The analyses showed strong predictive powers of user knowledge, as indicated by the three discrete dimensions, on privacy control behavior. However, the findings were mixed when accounting for the interaction between knowledge and Internet experiences. There were limitations on the extents of knowledge and action related to personalized information. Furthermore, those limitations divided with socio-demographic characteristics such as age, gender, income, and education.

Mohammadyari & Singh (2015) proposed that an individual's level of digital literacy affects the performance through its impact on the performance and effort expectations. To explain the influence of digital literacy on the intention of individuals to continue using e-learning and their performance, the researchers has integrated the concept of digital literacy with the Unified Theory of Acceptance and Use of Technology (UTAUT) and test the model using survey data from New Zealand accountants working in small and medium-sized enterprises (SMEs). The results indicated that these relationships were significant: digital literacy on users' performance and effort expectations, performance expectations on users' intentions to continue using Web 2.0 tools, and continuance intention on performance. These findings suggested that individual digital literacy facilitates the use of e-learning, and should be considered when examining the impact of the latter on performance.

Chaudhary (2015) focussed on the effectiveness of Intel teach a program on attitude towards ICT, digital literacy and study process of teacher educators. The results revealed that the teacher educators have the favourable attitude towards ICT irrespective of their gender, management, and stream. ICT training programme enhances their digital literacy and enables them to integrate these technology skills in their study process.

Frydenberg (2015) argued the process of making an original game develops digital literacy skills and provides an authentic learning experience as students create, publish and deploy interactive games. The approach used is that the author created a game development exercise which was implemented in three different sections of an introductory technology course. Students who participated were surveyed about their experiences. In addition, the author considers information technology (IT) skills and aspects of authentic learning which are achieved through this assignment. The Initial finding suggests that students found the gaming assignment offers an opportunity for students with no prior programming skills to create software within a controlled and supportive environment. It allows them to demonstrate their understanding of coding principles, including identifying objects and interactions, and that creating software requires a developer to specify exact instructions for the computer to follow.

Prior et al. (2016) has conducted the survey on online distance education and self-efficacy. First, it has considered two important antecedents: attitude and digital literacy. Second, the study considered the effects of self-efficacy on three important learning behaviors: peer engagement, learning management system (LMS) interaction and course convener interaction. The Findings from an online survey of 151 postgraduate business students suggested that positive student attitude and digital literacy significantly contribute to self-efficacy. In turn, self-efficacy has positive effects on peer engagement, learning management system (LMS) interaction and convener interaction.”

Adeoye and Adeoye (2017) studied the digital literacy skills of undergraduate students in Nigeria Universities. The research design employed for this study was a descriptive survey design. The population for this study was 60,997 undergraduate students of Obafemi Awolowo University, University of Ibadan and University of Lagos. Multiple stage sampling technique was used to arrive at 595 sampling size for the study. The instrument used was a questionnaire. Data were analyzed using frequency distribution tables; percentage, mean scores and standard deviation on Statistical Package for the Social Sciences (SPSS).The finding of the study revealed that majority of the students admitted that they are confident on their level of Information Literacy Skills, especially in using other people’s work (found online)without committing plagiarism. The students also indicated confidence in their level of Information and Communication Technology literacy skills, significantly when writing online on a web page for private use.

Çam and Kiyici (2017) studied perceptions of prospective teachers on Digital Literacy. The sample consisted of 354 prospective teachers. Exploratory Factor Analysis, Cronbach alpha, t-test and ANOVA were used for data analysis. Results showed that in terms of gender variable digital literacy levels of male prospective teachers and in terms of department variable digital literacy levels of computer education and instructional technology teaching department were found high. Besides, the digital literacy levels of prospective teachers having continuous Internet connection or a computer that they can continuously use were found high. In addition, results showed that prospective teachers’ personal income levels had no effect on their digital literacy levels.

Noh (2017) analysed the effect of digital literacy on information use behaviour. Survey method was used to collect the data. College students from five different colleges were targeted, with 221 surveys out of 250 returned. As to results, bit literacy influences information use behaviour most, followed by virtual community literacy and technical literacy in that order. Bit literacy is related to the ability to use information including information search, information

discernment, editing information, processing information, and utilizing information, and these items appear to have influenced information use behaviour most. Examination of these detailed items shows that the ability to process information has the most significant effect on information use behaviour followed by information discernment, information editing, community analysis, document editing, and use of tools and ability to create cyber culture in that order. The literacy indicators with the lowest effect on information use behaviour were the ability to communicate, form self-identity, information search, and form relationships in that order.

Lagarto and Lopes (2018) studied digital literacy teachers of the 2nd and 3rd cycles of Viseu (Portugal) County schools. The main objective of this paper was to understand how basic school teachers (5th to 9th grades) of the Municipality of Viseu (Portugal) carried out their training on information and communication technologies. Results showed that training in information and communication technologies, as a rule, do not appear in initial teacher training and is much carried out by self-training, supported by friends and colleagues and in the framework of training departments. Moreover, it was found that there was a significant improvement in the number of teachers who have undergone information and communication technologies training.

Nedungadi, et al. (2018) illustrated an Inclusive Digital Literacy Framework for vulnerable populations in rural areas under the Digital India program. This research implemented an educational model based on the proposed framework to train over 1,000 indigenous people using an integrated curriculum for digital literacy at remote settlements. The model uses mobile technology adapted for remote areas, context enabled curriculum, along with flexible learning schedules. The findings revealed that the education model exemplifies a viable strategy to overcome persistent challenges by taking tablet-based digital literacy directly to communities. It engages different factors such as existing civil societies, schools, and government organizations to provide digital literacy and awareness thereby improving both digital and life skills. It demonstrates the potential value of a comprehensive Digital Literacy framework as a powerful lever for Digital Inclusion.

Sultana (2018) examined digital awareness and digital literacy among Muslim women. Descriptive research design has opted for this study. The primary data gathered through a structured questionnaire. Information was gathered to know the level of use of digital resources and ability in using digital information. For this study 150 respondents were selected randomly. A simple random sampling technique is used for selecting sample. The total sample size is 150 respondents. Findings of the study reveal that most of the respondents have computer/laptop in

their home and 38.6% of the women are using computer for more than 7 years. Most of the respondents obtained knowledge through self-learning. The study shows that most of the respondents were excellent in computer literacy level and have knowledge of different computing devices and most of the Muslim women were accessing computer and internet for work and personal purpose. Majority of the respondents can use various office software. The study indicates that computer literacy rate is less among illiterate, primary and secondary education level than literate and higher education respondents. This might be because of lack of awareness about the digital resources and appropriate training is needed for effective use of computer.

Islami (2019) examined empirically the causal relationship between two variables, digital literacy (computer literacy and internet literacy) on entrepreneurial behaviours, and entrepreneurial intentions. This study is explanatory research to find and explain causal relationships between variables. The data analysis was Structural Equation Modelling (SEM) analysis. Based on the results, it was found that the digital literacy of students in economic education study programs in Jember was still limited to influence the intention of entrepreneurship, especially on entrepreneurial behaviours. However, the intention of entrepreneurship is proven to mediate digital literacy towards entrepreneurial behaviours.

Yazon, Manaig, Buama and Tesoro (2019) studied digital literacy, digital competence and research productivity of educators. This study determined the relationship between digital literacy, digital competence and research productivity of educators. This research employed descriptive-correlational research design. The respondents of the study were the permanent faculty members of the university. The research instruments utilized were the standardized scales of Being Digital: Digital Literacy Checklist measured the digital literacy of the respondents. And the digital competence was assessed through the Self-Assessment Tool of the European Digital Competence Framework for Educators. The statistical tools used were the weighted mean, Standard Deviation and Chi-Square. The findings revealed that there is a strong and significant relationship between faculty members' digital literacy and research productivity. This means that the increase in understanding, finding, using, and creating information using digital technologies is positively related to faculty members' ability to conduct, complete, present and publish a research article.

Marín and Castaneda (2023) contributed a chapter titled "Developing Digital Literacy for Teaching and Learning" to the Handbook of Open, Distance, and Digital Education. In this chapter, they provide insights into the importance of digital literacy in the context of teaching and learning, particularly within open and distance education frameworks. The authors explore

various aspects of digital literacy, including technological proficiency, information literacy, critical thinking, and ethical use of digital resources. They discuss the evolving nature of digital technologies and their impact on educational practices, highlighting the need for educators to develop digital literacy skills to effectively integrate technology into teaching and learning processes. The chapter addresses key challenges and opportunities associated with digital literacy development, such as access to technology, digital equity, and cybersecurity. Marín and Castaneda also examine strategies for promoting digital literacy among educators and learners, emphasizing the importance of professional development, curriculum integration, and pedagogical innovation. They discuss the role of digital tools, resources, and platforms in enhancing teaching effectiveness, student engagement, and learning outcomes.

Abrosimova, G. A. (2020). explored digital education and digital learning in Russia's realities today. The author utilizes the current situation with lockdown and, therefore, distance education and learning to try to shed light on some aspects of educational Digitalization. The article provides a theoretical discussion of the irreversibility and necessity of Digitalization of education, its components, stages, structure, advantages, and disadvantages; of what has been done and what is to be done in this field. The author also provides empirical data of studying Kazan Federal University students in foreign language classes during distance education and learning period. Remarkably, the article offers some insight into students' readiness for the digital era, evaluating their digital literacy and digital skills and competencies, their motivation to keep on studying while on distance, their abilities to take responsibility for their learning as well as some issues challenging students during distance learning.

2.5. STUDIES RELATED TO LEARNING SKILLS

Hattie, Biggs & Purdie (1996) conducted a study to identify features of study skills interventions are likely to lead to success. Via a meta-analysis we examine 51 studies in which interventions aimed to enhance student learning by improving student use of either one or a combination of learning or study skills. Such interventions typically focused on task-related skills, self-management of learning, or affective components such as motivation and self-concept. Using the SOLO model (Biggs & Collis, 1982), we categorized the interventions (a) into four hierarchical levels of structural complexity and (b) as either near or far in terms of transfer. The results support the notion of situated cognition, whereby it is recommended that training other than for simple mnemonic performance should be in context, use tasks within the same domain as the target content, and promote a high degree of learner activity and metacognitive awareness.

Justo and Di Biasio (2006) conducted a study to explore whether experiential learning environments prepare students for self-direction and life-long learning related skills. The researchers employed three different methods to compare the progress in lifelong learning through these methods. An experiential interdisciplinary projects program, called the Global studies program, increased readiness for self-directed learning (SDL). The life-long learning (LLL) using: a nationally recognized course evaluation system called the Individual Development and Educational Assessment system (IDEA); an internal student project quality assessment protocol; and the Self-Directed Learning Readiness Scale (SDLRS) were used. Students taught Global studies program reported much greater progress in lifelong learning related skills in comparison to national and local groups. Global Studies Program students constantly outscored on campus project students in life-long learning related measures by wide margins. Self-directed learning students also showed positive results in global studies program. The research findings supported the success of experiential learning environment in promoting Self-directed learning and life-long learning skills.

Gafoor and Shemi (2007) in a study to know the impact of study skills training program on achievement in Biology, showed positive results of using study skills program in the subject of biology. In a sample of 128 students of class VIII, 64 students formed experimental group and the same number formed control group. A significant difference was found in achievement in biology of study skills trained group in comparison to traditional group. The findings suggested that study skills were positively related to academic achievement. The development of study skills remained important in advancing student's academic, personal and professional success. Adequate assistance and guidance had improved the academic performance of low achievers and average achievers. It was suggested that in the teaching process, if teachers took responsibility of equipping students with important study skills, students would become independent learners to a great extent. Students and teachers highly appreciated the effectiveness of study skills training in improving the learning skills. It was very useful in enhancing achievements as its effect is highest in low achievement strata, though high achievers and average achievers were also supported by improving their learning skills. Again it was suggested that few hours in curriculum should be provided to develop newer techniques and skills which would assist learners to do better in learning and achieving.

Cerda, Im & Hughes (2014) study using an academically at-risk, ethnically diverse sample of 744 first-grade children, this study tested a multi-method (i.e., child performance measures, teacher ratings, and peer ratings) measurement model of learning-related skills (i.e., effortful control [EC], behavioral self-regulation [BSR], and social competence [SC]), and their shared

and unique contributions to children's reading and math achievement, above the effect of demographic variables. The hypothesized correlated factor measurement model demonstrated relatively good fit, with BSR and SC correlated highly with one another and moderately with EC. When entered in separate regression equations, EC and BSR each predicted children's reading and math achievement; SC only predicted reading achievement. When considered simultaneously, neither EC, neither BSR, nor SC contributed independently to reading achievement and EC had a direct effect on math achievement and an indirect effect on reading achievement via both BSR and SC. Implications for research and early intervention efforts are discussed.

MacLeod & Hayden (2016) studied the learning skills used by students at a technical college to fully participate in their classes were the focus of this investigation. Researchers shadowed two full-time students for one full day as they each went to their classes in a technical college in Qatar. An observation schedule was used to record what students did in their classes (for example: solve problems, listen to the teacher, ask questions). At the end of the day students were interviewed and asked to comment on the importance of the learning skills that they used, how they built the skills they needed and how to become a better student. It was found that students used a variety of learning skills throughout a typical day and that they had their own ideas about learning. The learning skills the two students used most during their classes were not the same, owing partly to the format of the courses and partly to personal learning approach. The four learning skills students identified as most important were: understand and apply concepts to current work; concentrate and maintain focus; follow written instructions; and ask questions. The information gathered in this investigation can be used to inform students, instructors and course planners about the skills students need to be active participants in their classes and to ensure that educators support the development of required learning skills.

Tekköl & Demirel (2018) conducted a study to reveal university students' self-directed learning skills and determine whether these skills vary based on university type, gender, field of study, year of study, academic success, type of university entrance score, income level, and the desire to pursue a graduate degree. Also, this study explored the relationship between university students' self-directed learning skills and their lifelong learning tendencies. The study group of the survey comprised 2,600 first and fourth-year students from same departments of Hacettepe and Başkent Universities. The study collected its data by using “Self-Directed Learning Skills Scale” designed by Aşkin (2015). Moreover, Diker-Coşkun's “Lifelong Learning Tendencies Scale” was used to explore the relationship between university students' self-directed learning skills and their lifelong learning tendencies. The results revealed

that university students' self-directed learning scores were above the median score of the scale. Self-directed learning skills were found not to vary based on university, year of study, income level. However, gender, field of study, university entrance score type, academic success and the desire to pursue a graduate degree made a significant difference on university students' self-directed learning skills. Finally, a moderate positive relationship was detected between self-directed learning skills and lifelong learning tendencies. In summary it can be said that, undergraduate students have self-directed learning skills and these skills are related to lifelong learning.

Haryani (2020) studied the 4Cs and says that science and technology education are essential subjects for achieving the desired workforce skills for the 21st century. This learning and innovation skills framework focuses on the development the skills of creativity and innovation, critical thinking and problem solving, collaboration, and communication, known as the 4Cs. However, there is little knowledge on the integration of these skills into the practices of Indonesian science instruction. To address the lack of curriculum revision implementation research in Indonesia, three interconnected studies that can stand alone to explore various considerations for the effective implementation of curriculum reform were done. The first study, using a qualitative design focuses on exploring teacher resources for integrating the 4Cs into science classrooms. A group of 28 vocational high school science teachers participated in study one. Teachers reported using more than one resource including open educational resources, teacher PD programs, teacher collaboration, and curriculum guidelines to help them prepare 4Cs integrated science instruction. For the second study, eighteen classroom observations and interview data from three chemistry teachers were used to examine how teachers elaborate their resources and to understand what factors that influence teachers to adopt pedagogical strategies to integrate 4Cs into science classrooms. Various factors effect teachers on using pedagogical strategies to integrate 4C, including student characteristics, the availability of learning tools and school facilities, and teacher mastery of the suggested teaching approach. The third study explored student-teacher interaction patterns in science classrooms that integrate 21st century learning skills. Teacher's resources and availability of these resources are key factors for a thorough implementation of curriculum reform into actual practice. Exploring what resources are available, how Indonesian vocational high school science teachers use these resources for teaching planning, implementing 4Cs integrated lesson plan into science classrooms, and observing student-teachers interaction patterns in actual science classrooms offered valuable insights into the essence of teachers' efforts to address the mandated 2017 curriculum revision. The findings of these three studies help teachers to reflect

on their commitment to implement the mandated curriculum reform and to effectively provide learning experiences that will help students develop the skills of creativity and innovation, critical thinking and problem solving, collaboration, and communication. Findings encourage the Indonesian policy makers to better monitor, evaluate, and address teachers' needs for effective implementation of the 2017 curriculum revision.

Wetchasit, Sirisuthi & Agsornsua (2020) gave the purposes of the research as: 1) to study the components and indicators of learning skills in the 21st century of the students, 2) to study the current conditions, desirable conditions and the need for learning skills development in the 21st century of the students, and 3) to develop strategies for the 21st learning skills development of students in schools under the Office of the Basic Education Commission. The samples consisted of 426 administrators and teachers. The instrument was a 5level rating scale questionnaire with IOC values between 0.80-1.00 with confidence equal to 0.98. The statistics used were percentage, frequency, mean, standard deviation, modified priority need index (PNI modified) and matrix analysis. The research results were as follows: 1) Components and indicators of learning skills in the 21st century of the students. There were 3 main components: (1) Learning and innovation skills consisted of 3 sub-components 19 indicators (2) Life and work skills consisted of 5 sub-components 38 indicators (3) Information skills in media, technology consisted of 3 sub-components 28 indicators 2) Current conditions of the 21st century of the students, in the overall and each aspect were at medium level. In desirable condition, in overall and each aspect were at high level. The priority needs for skills development were life-skills and work, learning skills and innovation, information skills media and technology. 3) Strategies for 21st learning skills development of students in schools under the Office of the Basic Education Commission consisted of the 1st strategy: Speed up the development of life and career skills to keep up with the changes. There were 4 goals, 11 measures, and 14 successful indicators. The 2nd strategy: Continuous learning skills and innovation development included 3 goals, 10 measures, 11 successful indicators. The 3rd strategy: Promote, develop of information skills, media and technology to be up to date included 3 goals, 10 measures, 10 successful indicators.

Fergusson (2022) studied work based learning and states that issues around informal, non-formal and formal learning, intended and unintended learning and competencies and capabilities have been considered in work-based learning (WBL). However, demarcated modes of learning, or what can be called strategies or pedagogies of learning, associated with experience of work environments have yet to be examined. One mode of learning which has been highlighted in relation to work is reflective practice, and its centrality to learning at work

has been established. But reflective practice as a core skill, and its relation to other approaches to learning and research in WBL, remains uncovered. The purpose of the study therefore was to identify different modes of learning as they appear in the literature and to present a proto-theoretical model for WBL and research founded on learning by reflection. Findings of the study showed that work environments, and the higher degree WBL programmes which support them, should provide learning via every available mode of learning, thereby allowing students to find their own best orientation to learning and encourage it by any means. The proto-theoretical model and 12 modes of learning applied to WBL are unique to this study. WBL provides participants of work with multiple opportunities and approaches to learn and similarly provides multiple modes through which learning can occur on the basis of knowledge and skills in reflective practice.

Odiri (2022) in his study showed that secondary school students show poor performance in mathematics in Delta State, Nigeria. Teachers, Parents, the government are all complaining about the poor performance of students in mathematics, and they are trying to find out how this problem can be solved. Many kinds of research have been carried out trying to find out the real cause of students' poor performance in secondary mathematics, but they fail to focus much attention on the variable 'study skills' as one of the causes. The study is a survey type. Five hundred (500) students were sampled from 25 Government secondary schools, Delta State of Nigeria, through random sampling. The instrument used in gathering data for this study were the students' Learning Skills Questionnaire (SSSQ) and centrally set examination results from the state ministry of education. The result from the state ministry of education was used to gather data on the students' performance in mathematics, while the questionnaire was used to gather information on students' learning skills. Two hypotheses were stated to guide the study, which was tested at a 0.05 level of significance using the SPSS and t - test statistic to analyze the data obtained. The result shows that there is a significant influence on students' learning skills and their performance in Mathematics. There was a significant difference between students who possess good learning skills and those with poor learning skills.

Sakurai (2023) conducted the study to understand students' achievements in learning and to improve the overall curriculum of the first-year experience course. In this study, a series of questionnaire-based surveys were conducted on students enrolled in the Introductory Seminar for Policy Science, a mandatory first-year experience course offered in the first semester (from April to July) at a university in Japan. The studies were conducted in 2015 ($n = 29$), 2016 ($n = 29$) and 2017 ($n = 31$). The findings revealed that, regardless of the year, students deepened their understanding of policy science and gained increased confidence to explain

what group works and reports are throughout the semester. In addition, students' level of worry about life at the university decreased throughout the course in all three years. A stepwise multiple regression analysis ($n = 84$) revealed that those students who knew what policy science was ($B = 0.271$) and had the confidence to write their opinions in reports ($B = 0.264$) more likely answered that they knew what they wanted to study over four years at the university. This study revealed that the mandatory first-year experience course taught by the same instructor generated similar educational effects for different students in different years. The results elucidated the progressive effects of different components of the course, eliminating possibilities of any bias or specific characteristics of a single group of students.

Suryawanshi, Patil & Mane (2023) in their study found that in recent years students are very reluctant to read books for studying for any course. They prefer only teachers' notes or PowerPoint slides and mobile apps for exam study. Any type of information or study material is easily available on various networking sites. This can lead to poor interest and less engagement of students in the classroom teaching learning process. Also, in class activities are not fulfilling the expected level of learning of students, especially in the conceptual courses. So students need an activity based learning approach in the classroom. Nowadays most of the teachers in engineering institutions face these challenges. Hence, to utilize the capabilities of students, make them aware of course related books and achieve expected level of learning of students, a poster presentation module was implemented. In this practice paper, implementation of poster development and presentation (PDP) to improve learning of course fluid mechanics and machineries is detailed. This PDP approach empowers the student in life-long learning skills.

Lo (2024) examined the ways in which different influences on student motivation and the development of independent learning (IL) skills might be constituted across students learning within different educational cultures. Previous studies on student motivation and IL have suggested the potential for differing conceptualizations of IL and its strategies (ILS), prompting questions as to the sources of these distinctions. One theory is that they might be influenced by differing cultural constructions of these concepts or may be linked to different motivations with respect to the purposes and outcomes of education. This study addressed a research gap with respect to these differences in the British and Chinese contexts by examining the responses of students sampled from a university in Scotland and a university in Hong Kong. Through mixed-methods research comprising quantitative analysis of questionnaires and thematic analysis of interview data, this research project compared conceptualizations of IL and ILS across both these contexts and highlighted the role that student motivation might play in either context. The

analytical results showed differences in the conception of IL and the implementation of ILS potentially due to differing cultural contexts. Further cross-cultural comparative research is needed with a study design that excludes the influence of institutional and demographic factors to better isolate the influence of culture on perception of IL and use of ILS.

White et al. (2021) conducted a longitudinal study following students from childhood to adolescence to identify key milestones and predictors of learning skills. Through comprehensive assessments and observations, the study tracked the development of various learning skills, including cognitive abilities, metacognitive strategies, and socio-emotional competencies, across different stages of development. The research elucidated the critical role of early childhood experiences, parental involvement, and educational practices in shaping students' learning trajectories over time. By identifying key predictors and milestones of learning skills development, the study provides valuable insights for educators, policymakers, and parents to support children's holistic growth and academic success.

Wang et al. (2020) investigated the effects of technology-enhanced learning environments on students' digital literacy. Their study utilized experimental designs and qualitative assessments to examine how various technological interventions, such as online modules, digital simulations, and multimedia resources, influenced students' digital literacy skills, including information literacy, media literacy, and digital communication. The research findings provided insights into the effectiveness of technology-enhanced learning approaches in promoting students' proficiency in navigating digital information landscapes, critically evaluating online resources, and communicating effectively in digital formats.

Kim and Park (2022) explored the effects of technology-enhanced learning environments on students' digital literacy. Using mixed-methods approaches, their study examined the impact of digital learning platforms, interactive educational software, and online collaborative tools on students' digital literacy competencies across diverse educational settings. Through surveys, interviews, and content analyses, the research investigated students' perceptions, experiences, and outcomes related to technology-mediated learning activities. The findings shed light on the potential benefits and challenges of integrating technology into educational practices to foster students' digital literacy skills and prepare them for success in a digitally driven world.

Zimmerman's (1990) seminal research investigates the relationship between self-regulated learning strategies and academic achievement. Self-regulated learning involves the ability to set goals, plan strategies, monitor progress, and adapt one's learning approach based on feedback and reflection. Zimmerman demonstrates how self-regulated learners exhibit greater motivation, engagement, and academic performance compared to their peers. Through

empirical studies and theoretical analysis, Zimmerman elucidates various self-regulation processes, such as goal setting, strategic planning, time management, and self-assessment. The study underscores the importance of fostering self-regulated learning skills in educational settings to empower students to become proactive, resourceful, and resilient learners.

Facione's (2011) comprehensive study provides a nuanced exploration of critical thinking skills and their paramount importance in education and beyond. Critical thinking entails the ability to analyze, evaluate, infer, and solve problems systematically and logically. Facione argues that critical thinking is not only a fundamental academic skill but also a vital component of responsible citizenship and informed decision-making in everyday life. Drawing on empirical research and practical examples, Facione elucidates how critical thinking fosters intellectual autonomy, open-mindedness, and ethical reasoning. By promoting critical thinking skills, educators can empower individuals to navigate complex issues, challenge assumptions, and make informed judgments in a rapidly changing world.

Chen et al. (2023) conducted a cross-cultural study examining how cultural values and norms influence students' approaches to learning and skill development. Through surveys, interviews, and cultural analyses, the research explored how cultural factors, such as collectivism vs. individualism, power distance, and uncertainty avoidance, shape students' learning behaviors, attitudes, and preferences across different cultural contexts. The study investigated how cultural values influence students' motivation, study habits, and perceptions of learning outcomes. By examining the intersection of culture and education, the research provided insights into the complex interplay between cultural influences and educational practices, informing strategies for promoting culturally responsive teaching and learning environments.

Flavell's (2011) seminal work delves into the intricate role of metacognitive skills in the learning process. Metacognition refers to one's ability to monitor, regulate, and control their cognitive processes. Flavell emphasizes that individuals with strong metacognitive abilities are adept at setting goals, planning strategies, monitoring their progress, and evaluating their outcomes. Through empirical research and theoretical analysis, Flavell highlights how metacognitive skills contribute to academic success by enhancing students' self-awareness, self-regulation, and self-efficacy. By understanding and fostering metacognitive development, educators can empower students to become more independent and effective learners.

Bruffee's (1999) insightful study explores the theory and practice of collaborative learning in higher education. Collaborative learning emphasizes peer interaction, shared inquiry, and cooperative problem-solving to construct knowledge collectively. Drawing on socio-cultural perspectives, Bruffee argues that collaborative learning environments promote active

engagement, critical dialogue, and the co-construction of meaning among students. The study examines how collaborative learning fosters communication skills, teamwork, and social cognition while challenging traditional notions of authority and expertise. By embracing collaborative learning pedagogies, educators can create inclusive and dynamic learning communities where students collaborate, negotiate, and construct knowledge collaboratively.

Garrison D.R (2011) examined the challenges and opportunities for fostering critical thinking skills in online learning environments. Through qualitative analysis of student interactions and course activities, the study identified strategies for promoting critical thinking, such as collaborative inquiry, reflective discourse, and authentic problem-solving tasks. Garrison emphasized the need for innovative instructional designs and supportive online communities to cultivate critical thinking skills in digital learning context.

Wong Wong, L., et al. (2024) conducted a qualitative study to explore students' experiences and perceptions of collaborative learning in virtual reality (VR) environments. Through focus group interviews and participant observations, the study examined how VR technologies facilitate collaboration, communication, and problem-solving among students. The findings revealed that VR-based collaborative learning activities promoted engagement, creativity, and social interaction, enhancing students' learning experiences and outcomes. The study highlights the potential of VR technologies to transform collaborative learning practices and enrich educational experiences in diverse contexts.

Kim, J., et al. (2020) conducted a cross-cultural study to examine college students' information literacy skills and strategies in the digital age. The research compared students' information-seeking behaviors, evaluation criteria, and citation practices across different cultural contexts. The findings revealed both similarities and differences in students' information literacy practices, highlighting the need for culturally responsive approaches to information literacy education. The study provides insights into the evolving nature of information literacy in an increasingly digital and globalized world.

Garcia, M., et al. (2021) conducted a mixed-method study to explore the effectiveness of interventions aimed at promoting self-regulated learning (SRL) in online higher education. Through surveys, interviews, and learning analytics, the study examined students' SRL behaviors, perceptions, and academic outcomes in online courses. The findings revealed that scaffolding, feedback, and goal-setting interventions were effective in fostering students' SRL skills and improving their course performance. The study highlights the importance of designing online learning environments that support students' autonomy, motivation, and metacognitive development.

Chen, Y., & Wang, H. (2022) conducted a meta-analytic review to examine the impact of technology-enhanced learning environments on the development of critical thinking skills. The study synthesized findings from multiple studies and found that technology-enhanced interventions, such as interactive simulations, online discussions, and virtual laboratories, were associated with significant improvements in critical thinking abilities among learners. The research underscores the potential of technology to facilitate the development of critical thinking skills in educational settings.

Lee, S., et al.(2023) conducted a randomized controlled trial to investigate the effects of mindfulness-based interventions (MBIs) on learning skills in elementary school students. The study found that students who participated in MBIs demonstrated significant improvements in attentional control, emotional regulation, and academic performance compared to those in the control group. The findings suggest that integrating mindfulness practices into the school curriculum can enhance students' learning skills and overall well-being.

2.6 CRITICAL REVIEW

The reviewed studies demonstrate varying degrees of relevance to the topic of digital literacy and its impact on learning skills among rural school students. Digital literacy plays a crucial role in shaping the learning outcomes of students in today's increasingly technology-driven world. While much attention has been given to digital literacy initiatives in urban and suburban settings, the impact of such programs on rural school students remains underexplored. The review studies collected were 54 among which 27 studies focus on Digital Literacy and 27 studies focus on Learning Skills. Survey method has been used for this study . Statistical techniques like 't' test, 'F' test ' χ^2 ' test, ANOVA and regression techniques were employed. There are notable gaps in the literature regarding methodological rigor, intersectional perspectives, and implications for practice. Some studies utilize rigorous research designs, such as randomized controlled trials or longitudinal studies, to assess the impact of digital literacy interventions on learning skills. However, there is a notable gap in the literature regarding studies that specifically address the intersection of digital literacy, rural education, and learning skills. Hence this study on The impact of digital literacy on learning skills among rural school students will fill the gaps in the review studies.

2.7 CONCLUSION

From the reviewed studies, it is understood that most individuals have ready access to technology for "creating, manipulating, designing, and self-actualization," in addition to communication. They also emphasise that, as far as people are aware, digital literacy refers to a person's capacity to use digital platforms for task completion. Students have shown a strong reluctance to read books in order to study for any kind of course in recent years. For exam preparation, they only like using lecture notes, PowerPoint presentations, and smartphone apps. On numerous networking sites, study materials and information of any kind are readily accessible. So the review says that students are aware of digital literacy and learning skills can be developed.

CHAPTER-III

METHODOLOGY

3.1 INTRODUCTION

Research, commonly understood as the quest for knowledge, can be defined as a rigorous and methodical exploration aimed at uncovering pertinent information within a specific domain. It is essentially an art of scientific inquiry, meticulously seeking out new insights within various branches of knowledge. The Advanced Learner's Dictionary of current English defines research as a meticulous investigation or inquiry, delving into the search for novel facts across different fields of knowledge. Research is fundamentally an academic pursuit, thus necessitating its usage in a technical context.

Redman and Moray characterize research as a systematic endeavor to acquire fresh knowledge. Clifford Woody expands on this definition, outlining research as a structured process involving problem definition and redefinition, hypothesis formulation, data collection, organization, evaluation, deduction, conclusion drawing, and rigorous testing to validate the hypotheses.

The term "research" encompasses a range of related activities, often intertwining in their search for information. It represents an original contribution to existing knowledge, driving its advancement through the pursuit of truth via study, observation, comparison, and experimentation. In essence, research entails the systematic pursuit of knowledge through objective and methodical approaches aimed at solving problems. It involves a systematic methodology, including generalization and theory formulation.

Basic classifications of research methods include Historical, Survey, and Experimental methods. The Survey method, chosen for this study, is ideal for investigating and determining the status of a present phenomenon. Through this method, researchers can gather comprehensive data to inform their inquiries and contribute to the body of knowledge within their respective fields.

3.2 MEANING OF RESEARCH

Research is the systematic process of collecting and analyzing information in order to increase our understanding of the phenomenon about which we are concerned or interested. Thus Research means to observe the phenomena again and again from different dimensions.

Meaning of Research is an endeavour to discover answers to intellectual and practical problems through the application scientific method.

"Research is a systematized effort to gain new knowledge"

- Redman and moray

The methodology, the population, sample, construction and validation, tool procedure, description of the completed study, and statistics utilized for the study are all planned to be covered in this chapter.

3.3 AIM OF THE STUDY

The present study aims at find the Impact of digital literacy on learning skills among rural school students.

3.4 OBJECTIVES OF RESEARCH

The purpose of research is to discover answers through the application of scientific procedures. The objectives are

- To investigate a subject
- To collect data regarding the problem
- To conduct logical and objective study
- To conduct a systematic enquiry of the subject
- For carefully recording, reporting and presenting the facts

3.5 DIFFERENT RESEARCH METHODS

Research methods encompass various techniques and approaches used to investigate phenomena, gather data, and generate knowledge in fields such as science, social science, humanities, and beyond. Here are some common research methods:

1. Quantitative Research:

- **Experimental Research:** Involves manipulating variables to establish cause-and-effect relationships in controlled settings.
- **Survey Research:** Uses questionnaires or interviews to collect data from a sample population, often employing statistical analysis to generalize findings.
- **Correlational Research:** Examines the relationship between variables without manipulating them, focusing on the degree of association.

2. Qualitative Research:

- **Ethnography:** Immerses researchers in the natural environment of the subjects to understand their culture, behaviors, and social structures.
- **Interviews:** Conducts in-depth, open-ended interviews to explore participants' perspectives, experiences, and beliefs.
- **Observational Studies:** Observes and records behaviors, interactions, and phenomena in natural settings without intervening.

3. Mixed-Methods Research: Combines both quantitative and qualitative methods to gain a comprehensive understanding of a research problem, allowing for triangulation and complementarity of findings.

4. Action Research: Involves collaborative inquiry and problem-solving within a specific context or community to address practical issues and effect change.

5. Case Study Research: In-depth investigation of a particular individual, group, organization, or phenomenon within its real-life context, often using multiple data sources and methods.

6. Meta-Analysis: Systematically synthesizes findings from multiple studies on a specific topic or research question to draw conclusions and identify patterns across studies.

7. Experimental Design: Establishes controlled conditions to test hypotheses and determine causal relationships between variables, often involving random assignment of participants to experimental and control groups.

8. Longitudinal Research: Studies participants over an extended period to observe developmental changes, trends, or effects of interventions over time.

9. Descriptive Research: Aims to describe and characterize phenomena, populations, or situations without manipulating variables or testing hypotheses.

10. Surveys and Questionnaires: Administers standardized sets of questions to gather data from a sample population, often used to assess attitudes, behaviors, and characteristics.

3.6 METHODS ADOPTED FOR THE PRESENT STUDY

After retracing the different methods of educational research, the investigator has adopted descriptive survey method for the study.

3.6.1 SURVEY METHOD

The word “survey” indicates the gathering of data.

“The survey method gathers data from a relatively large number of cases at a particular time”

-John W Best (1989)

“Survey method is a method of collecting and analysis of responding representing a specific population collected through tightly structured questionnaire or even Interview”

- Sukia (1981)

“The survey approaches necessary for the collection of facts and collection of information relevant to the problem”

-Adiseshiah & Sekar (1997)

3.7 GEOGRAPHICAL AREA OF THE STUDY

The geographical areas of the study consist of five rural schools from Tirunelveli, Tuticorin and Tenkasi District.

3.8 POPULATION

A population is any group of individuals that have one or more characteristic in common that is of interest to the researcher. The population may be all the individuals of a particular type or more statistical part of the group.

The population of the present study consists of rural school students.

3.9 SAMPLE

“A sample is a small proportion selected for observation and analysis by observing the characteristics of the sample; one can make certain inference about the characteristics of the population from which it is drawn.” - John W Best

The sample for the present study was selected from 5 schools of Tirunelveli, Tuticorin and Tenkasi District. Three hundred rural students were selected by using simple random sampling method.

Investigators had used simple random technique for selecting the sample of the present study. Investigators had randomly selected 300 students from five rural schools.

3.10 SCHOOLS SELECTED FOR THE STUDY

TABLE 3.1
SCHOOL WISE DISTRIBUTION OF SAMPLE

Sl. No	Name of the schools	No. of rural school students	Percentage (%)
1	Luisa Girls Hr. Sec. School, Kalugumalai.	60	20
2	Muslim Hr. Sec .School, Melapalayam.	60	20
3	Quide Millath Hr. Sec. school, Melapalayam.	60	20
4	Thiru Iruthaya.Hr. Sec. School, Melailanthaikulam	60	20
5	Punitha Arulappan Hr. Sec. School, Avudayanoor	60	20

3.11 TOOLS USED IN THE PRESENT STUDY

Tool for the present study will be adopted and modified by the investigators based on the following dimensions;

TABLE 3.2

S.NO	Dimension for digital literacy	Dimension for learning skills
1.	Information processing	Confidence and independence
2	Content creation	Skills and strategies
3.	Communication	Knowledge and Understanding
4.	Safety	Reflection
5.	Problem-solving	Creativity

3.12 STEPS INVOLVED IN TOOL CONSTRUCTION

Developing a tool for digital literacy and learning skills involves several steps to ensure its effectiveness and relevance. Here are the steps typically involved:

- **Needs Assessment:** Conducting needs assessment to identify the specific digital literacy and learning skills that the tool should address. This may involve reviewing existing research, conducting surveys or interviews with target users, and analyzing relevant educational standards or frameworks.
- **Define Objectives and Learning Outcomes:** Clearly defining the objectives of the tool and the desired learning outcomes. What do you want users to be able to do or understand after using the tool?
- **Content Development:** Developing the content for the tool based on the identified needs and objectives. This may include creating instructional materials, interactive modules, quizzes, videos, or other multimedia resources.
- **Design and User Interface:** Designing the user interface of the tool to be intuitive, user-friendly, and engaging. Consider factors such as navigation, layout, visual design, and accessibility to ensure that the tool is accessible to all users.

- **Prototype Development:** Creating prototype or mock-up of the tool to test its functionality and usability. This may involve building a basic version of the tool using wireframing or prototyping software.
- **Iterative Testing and Feedback:** Conducting iterative testing of the prototype with target users to gather feedback and identify areas for improvement. This may involve usability testing, focus groups, or surveys to gather qualitative and quantitative feedback.
- **Refinement and Revision:** Based on the feedback received during testing, refining and revising the tool as necessary to address any issues or concerns raised by users. This may involve making changes to the content, design, functionality, or user interface.
- **Development of Final Version:** Once the prototype has been refined and tested, developing the final version of the tool is to be done. This may involve further polishing the content, optimizing performance, and ensuring compatibility with different devices and platforms.
- **Implementation and Deployment:** Deploying the tool for use by the target audience. This may involve hosting the tool on a website, integrating it into an existing learning management system (LMS), or distributing it through other channels such as app stores or digital repositories.
- **Training and Support:** Providing training and support to users to help them effectively use the tool. This may include instructional materials, tutorials, help documentation, or online support resources.
- **Monitoring and Evaluation:** Monitor the usage and effectiveness of the tool over time. Collect data on user engagement, learning outcomes, and other relevant metrics to evaluate the impact of the tool and identify areas for further improvement.
- **Updates and Maintenance:** Regularly updating and maintaining the tool to keep it relevant and effective. This may involve fixing bugs, adding new content or features, and incorporating feedback from users and stakeholders.
- By following these steps, developers can create effective tools for digital literacy and learning skills that meet the needs of users to support their educational goals.

3.13 DESCRIPTION OF THE TOOL

Digital Literacy

The questionnaire has five dimensions with 38 questions. There are 8 questions in the first, second and fifth dimensions, 7 questions in the third and fourth dimensions.

Learning skill

The questioner consists of 5 dimensions with 38 questions. There are 8 questions in first, third and fourth dimensions and 7 questions in second and fifth dimensions.

3.14 VARIABLES TAKEN FOR THE STUDY

The investigator has taken 8 background variables for the present study. They are as follows;

1. Gender : Male/Female
2. Medium of Instruction : Tamil/English
3. Type of Family : Joint / Nuclear
4. Educational Qualification of Father : Illiterate/School Education/College Education
5. Educational Qualification of Mother : Illiterate/School Education/College Education
6. Occupation of Father : Daily Wages/ Private / Government
7. Occupation of Mother : Daily Wages / Private / Government
8. Family Monthly Income : Below Rs.10000/ Rs.10001-20,000 / Above Rs.20000

3.15 VALIDITY OF THE TOOL

CONTENT VALIDITY

To establish the validity, the tool was given to the panel of experts in the field of education Dr. M. Gnana Kamali, Assistant Professor of Computer Science and Dr. T. Jeya Selva Kumari, Assistant Professor of Education, St. Ignatius College of Education. Some items are modified and some are changed on the basis of the experts' suggestions. The investigator with the help of experts, modified the items and finalized the tool, thus the content validity was established.

3.16 PILOT STUDY

A pilot study was conducted on fifty questionnaires to establish the reliability and validity of the research tools, to modify the statements that were ambiguous and to determine the optimum time duration for the administration of each test. Digital literacy Questionnaire and Learning skill Questionnaire were administered for pilot study in Government higher secondary school, Maranthai.

Procedure for Data Collection and Main Study

Investigators visited rural schools from three districts namely Tirunelveli, Tuticorin and Tenkasi. After giving a brief introduction about the investigators, explained the purpose of the present study and encouraged them to be free and frank in giving the responses.

3.17 SCORING PROCEDURE

The scoring was done with the key, prepared by the investigator. In this scale, all the items were objective type with multiple choices.

Scoring procedure of Digital literacy Questionnaire

- I. Information Processing
- II. Content creation
- III. Communication
- IV. Safety
- V. Problem solving

The items are to be answered by choosing any one of the two. 1 for yes and 0 for no answers.

The scoring for digital literacy questionnaire is given as; 1 for yes and 0 for no answers

Scoring procedure of Learning skill Questionnaire

The items are to be answered by choosing any one of the three 1. Always, 2. Sometimes and 3. Never

Scoring procedure of Learning skill Questionnaire

Response	Scoring
Always	3
Sometimes	2
Never	1

3.18 SAMPLING DISTRIBUTION

TABLE 3.3
GENDER WISE DISTRIBUTION

Gender	Number of Students	Percentage (%)
Male	150	50
Female	150	50
Total	300	100

The above table shows that in the total sample 50% students are male students and 50% are female students.

FIGURE 3.1

The pie diagram shows the percentage of sample classification according to gender.

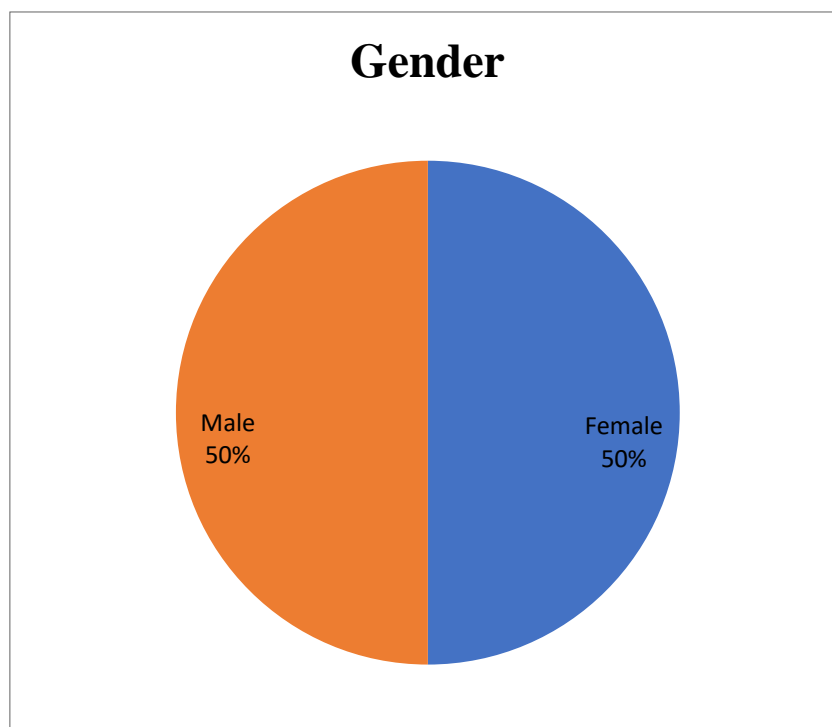


TABLE 3.4

MEDIUM OF INSTRUCTION WISE DISTRIBUTION

Medium of Instruction	Number of Students	Percentage (%)
Tamil	60	20
English	240	80
Total	300	100

The above table shows that in the total sample 20% of students from Tamil medium and 80% of students from English medium.

FIGURE 3.2

The pie diagram shows the percentage of sample classification according to Medium of Instruction

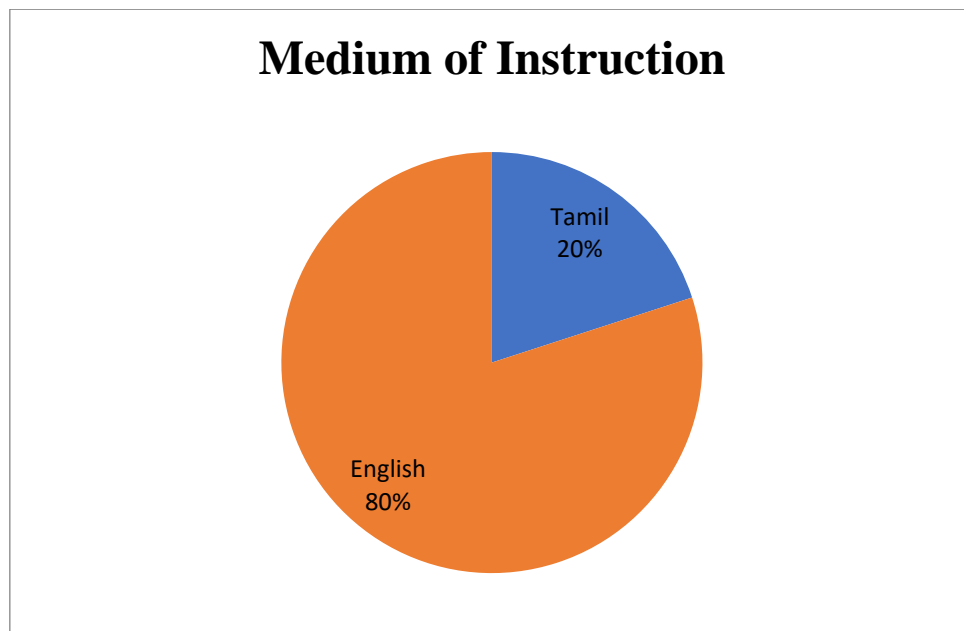


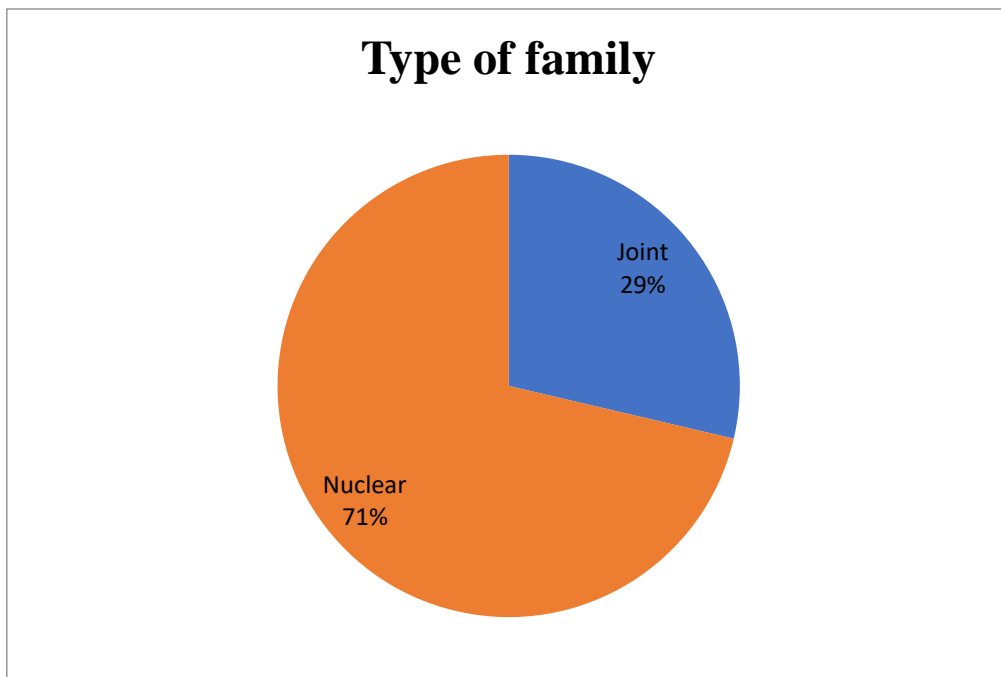
TABLE 3.5
TYPE OF FAMILY WISE DISTRIBUTION

Type of family	Number of Students	Percentage (%)
Joint	86	28.67
Nuclear	214	71.33
Total	300	100

The above table shows that in the total sample 28.67% of students from joint family and 71.33% of students from nuclear family.

FIGURE 3.3

The pie diagram shows the percentage of sample classification according to Type of family.



FATHER'S EDUCATIONAL QUALIFICATION WISE DISTRIBUTION

TABLE 3.6

Educational qualification of father	Number of Students	Percentage (%)
Illiterate	31	10.33
School education	214	71.34
College education	55	18.33
Total	300	100

The above table shows that in the total sample 10.33% of students' fathers are Illiterate, 71.34% of students' parents have School education and 18.33% of students' parents have College education

FIGURE 3.4

The pie diagram shows the percentage of sample classification according to Educational qualification of father.

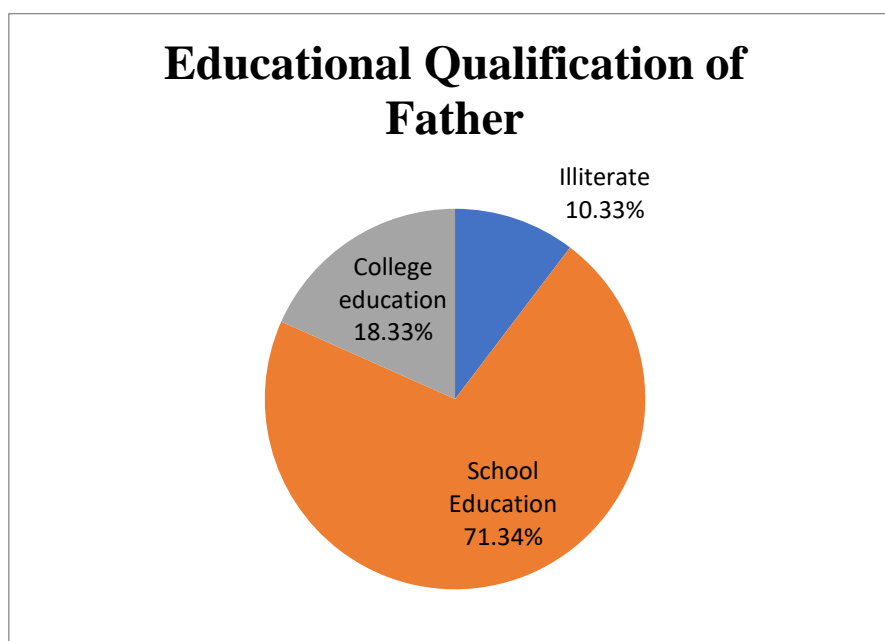


TABLE 3.7
MOTHER'S EDUCATIONAL QUALIFICATION WISE DISTRIBUTION

Educational qualification of mother	Number of Students	Percentage (%)
Illiterate	30	10
School education	219	73
College education	51	17
Total	300	100

The above table shows that in the total sample 10% of students' mothers are Illiterate, 73% of students' parents have School education and 17% of students' parents have College education.

FIGURE 3.5

The pie diagram shows the percentage of sample classification according to Educational qualification of mother.

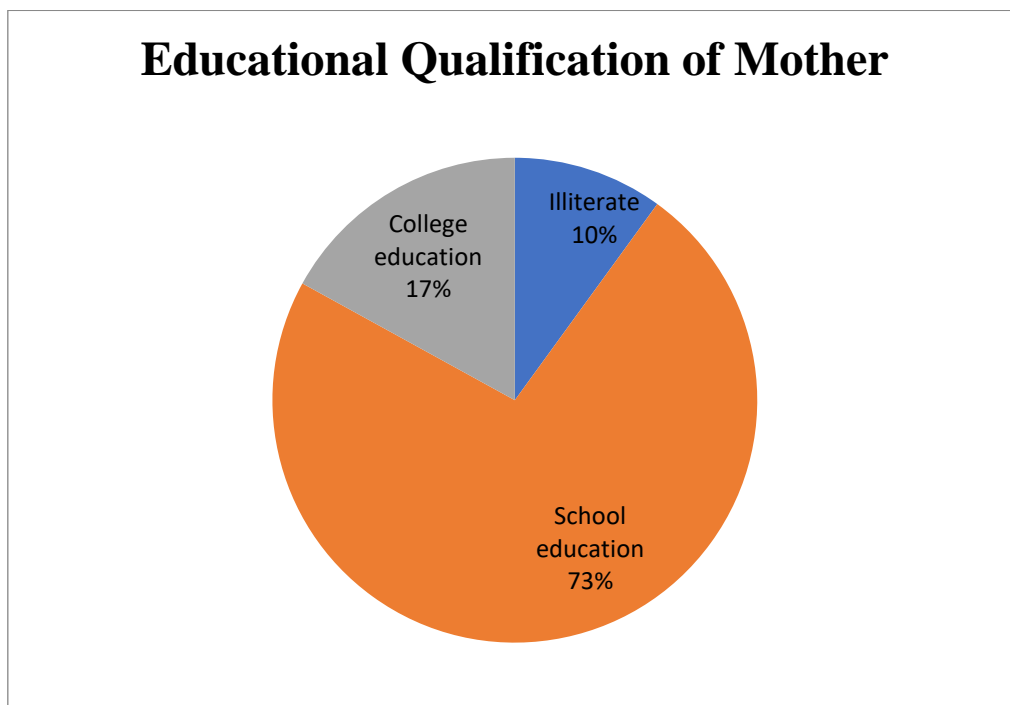


TABLE 3.8
FATHER'S OCCUPATION WISE DISTRIBUTION

Occupation of father	Number of Students	<i>Percentage (%)</i>
Daily wages	118	39.33
Private	177	59
Government	5	1.67
Total	300	100

The above table shows that in the total sample 39.33% of students' fathers' occupation through daily wages, 59% through private and 1.67% through government employment.

FIGURE 3.6

The pie diagram shows the percentage of sample classification according to occupation of father.

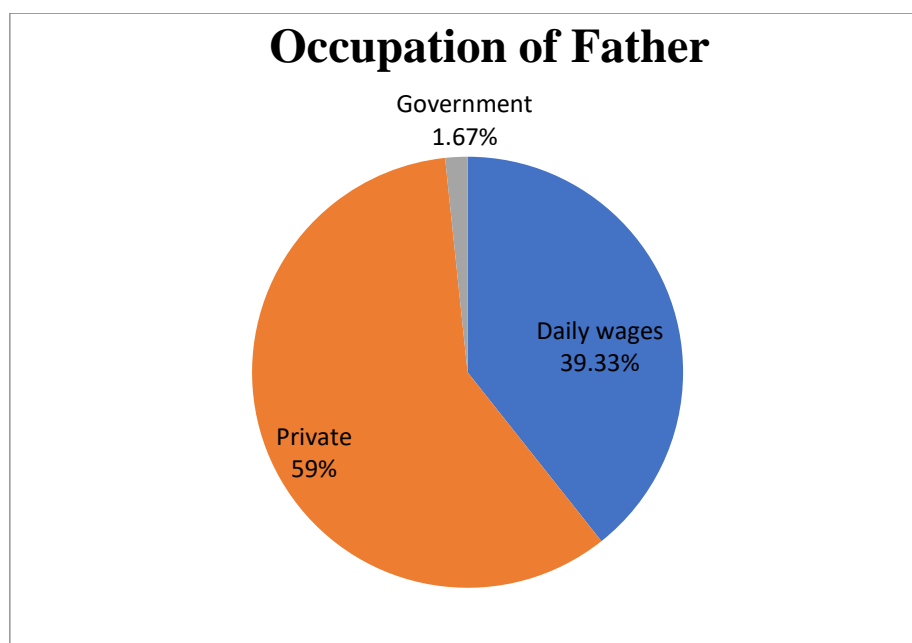


TABLE 3.9
MOTHER'S OCCUPATION WISE DISTRIBUTION

Occupation of mother	Number of Students	<i>Percentage (%)</i>
Daily wages	173	57.67
Private	126	42
Government	1	0.33
Total	300	100

The above table shows that in the total sample 57.67% of students' mothers' occupation through daily wages, 42% through private and 0.33% through government employment.

FIGURE 3.7

The pie diagram shows the percentage of sample classification according to Occupation of mother.

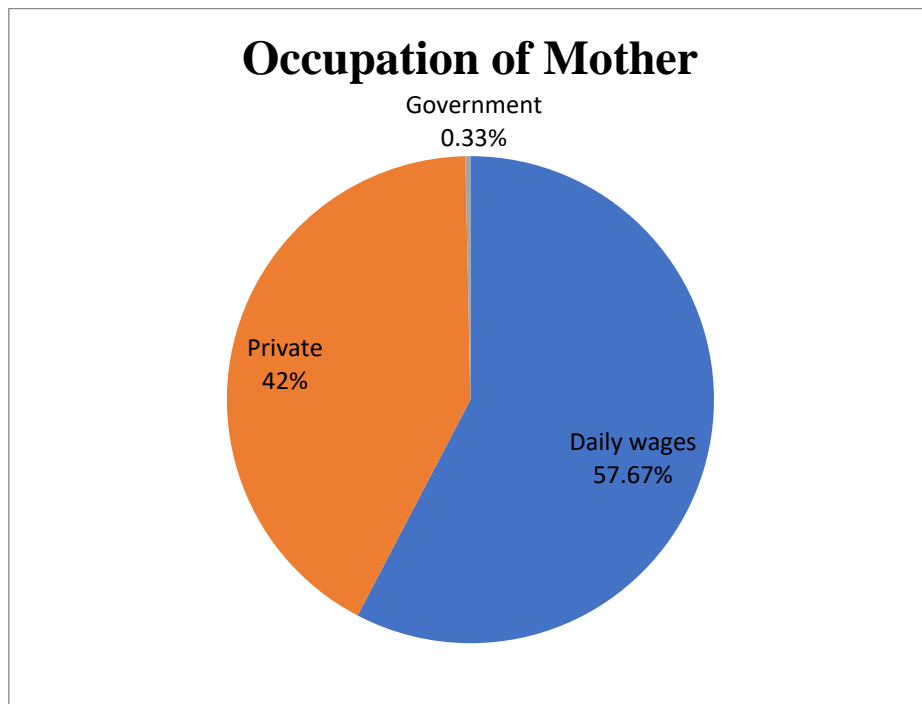


TABLE: 3.10
FAMILY MONTHLY INCOME WISE DISTRIBUTION

Monthly income of parents	Number of Students	Percentage (%)
Below Rs. 10000	135	45
Rs 10001 – 20000	156	52
Above Rs. 20000	9	3
Total	300	100

The above table shows that in the total sample 45% of students parents earn below Rs. 10000 and 52% of students parents earn Rs 10001 – 20000 and 3% of students parents earn above Rs. 20000.

FIGURE 3.8

The pie diagram shows the percentage of sample classification according to Monthly income of parents

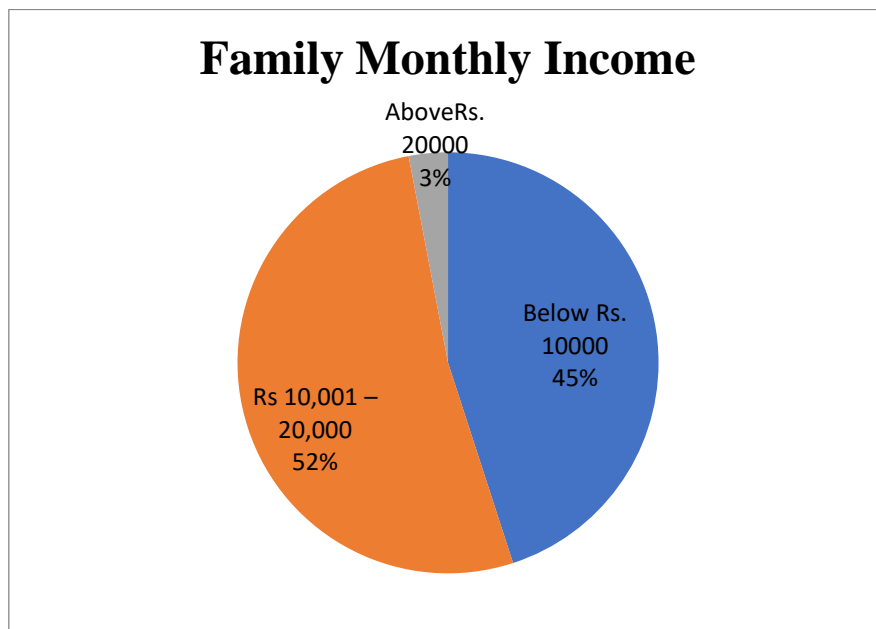
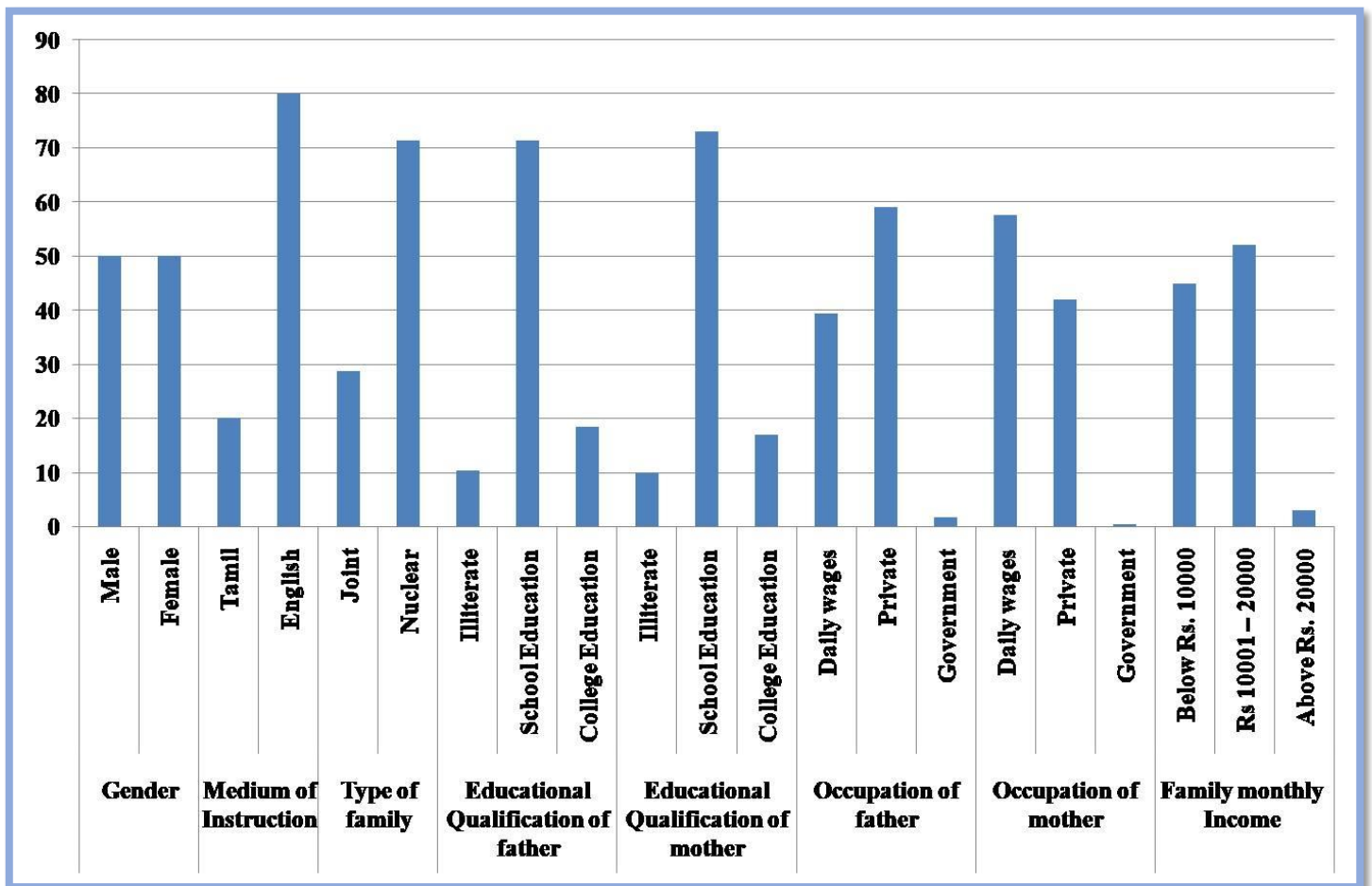


TABLE 3.11
DISTRIBUTION OF TOTAL SAMPLE

Sl. No	Variables	Classification	Number of Students	<i>Percentage (%)</i>
1	Gender	Male	150	50
		Female	150	50
2	Medium of Instruction	Tamil	60	20
		English	240	80
3	Type of family	Joint	86	28.67
		Nuclear	214	71.33
4	Educational Qualification of father	Illiterate	31	10.33
		School Education	214	71.34
		College Education	55	18.33
5	Educational Qualification of mother	Illiterate	30	10
		School Education	219	73
		College Education	51	17
6	Occupation of father	Daily wages	118	39.33
		Private	177	59
		Government	5	1.67
7	Occupation of mother	Daily wages	173	57.67
		Private	126	42
		Government	1	0.33
8	Family monthly Income	Below Rs. 10000	135	45
		Rs 10001 – 20000	156	52
		Above Rs. 20000	9	3

FIGURE 3.9



The diagram shows the percentage of distribution of total sample

3.19 ESTABLISHING THE RELIABILITY AND VALIDITY OF THE TOOL

3.19.1 ITEM WHOLE CORRELATION

Karl Pearson's product moment correlation co-efficient was calculated between the item score and the total score to find validity index of the item. In this method "each item score is correlated with the total scale mean score. The items which are significant at 5% level are accepted and selected. The correlation values above or equal to 0.19 were and selected. The table value at 5% significance level is 0.195. Hence, items validity index below this were deleted. Items having validity index above 0.2 were selected from the draft questionnaire. So the final tool contained 38 Items for digital literacy questionnaire with the deletion of 5 items and 38 questions in Learning skill questionnaire with deletion of 7 items. Thus, the validity of the tool was established. The validity indices are given in the following table.

TABLE – 3.12

ITEM VS WHOLE CORRELATION OF DIGITAL LITERACY

Item No	'γ' value	Item No	'γ' value	Item No	'γ' value
1.	0.86	16.	0.50	31.	0.36
2.	0.35	17.	0.50	32.	0.71
3.	0.71	18.	0.86	33.	0.29
4.	0.64	19.	0.57	34.	0.29
5.	0.85	20.	0.43	35.	0.29
6.	0.57	21.	0.50	36.	0.29
7.	0.50	22.	0.36	37.	0.57
8.	0.86	*23.	0.00	38.	0.71
9.	0.71	*24.	0.15	39.	0.71
10.	0.57	*25.	0.07	40.	0.86
11.	0.50	26.	0.50	41.	0.64
12.	0.57	*27.	0.14	42.	0.71
*13.	0.07	28.	0.50	43.	0.71
14.	0.43	29.	0.36		
*15.	0.18	30.	0.57		

* “Deleted items”

TABLE – 3.13**ITEM VS WHOLE CORRELATION OF LEARNING SKILL**

Item No	‘γ’ value	Item No	‘γ’ value	Item No	‘γ’ value
*1.	0.15	16.	0.32	31.	0.36
2.	0.26	17.	0.72	32.	0.36
3.	0.52	18.	0.35	33.	0.53
4.	0.41	19.	0.50	34.	0.55
5.	0.34	20.	0.35	35.	0.31
*6.	0.18	21.	0.59	36.	0.29
7.	0.62	22.	0.35	37.	0.52
8.	0.50	*23.	0.01	38.	0.50
*9.	0.18	24.	0.50	39.	0.53
10.	0.28	25.	0.63	40.	0.32
*11.	0.17	26.	0.44	41.	0.58
12.	0.59	27.	0.34	42.	0.54
13.	0.31	28.	0.27	*43.	0.13
14.	0.52	29.	0.43	*44.	0.13
15.	0.47	30.	0.28	45.	0.50

* “Deleted items”

ESTABLISHING RELIABILITY

Of the different methods, split-half method was used to determine the reliability coefficient for the tools Digital literacy and Learning skills. In split-half method both the tools were for the s administered to 50 standard IX students from Government Aided School. This method is appropriate for testing co-efficient of homogeneity. The whole students were split into two halves odd and even numbered were scored and reliability coefficient of correlation sets of scores were calculated. The reliability index of the tools was estimated by the Spearman Brown formula. $r = 2r / (1 + r)$ and it was found to be 0.887842863 for digital literacy questionnaire and 0.879302694 for learning skill questionnaire which are high (Best & Kahn, 2014).

TABLE – 3.14

SPLIT-HALF RELIABILITY VALUE OF THE TOOL

S.No	Tool	Spilt-half 'γ' value
1.	Digital Literacy	0.87
2.	Learning skill	0.89

3.20 STATISTICAL TECHNIQUES USED

For the present study the investigator used the following statistical technique.

1. Mean

The mean, often referred to as the average, is a measure of central tendency that represents the typical value of a set of numbers.

Mean was calculated by making use of the formula.

$$\text{Mean } \bar{X} = A \pm \frac{\sum fd}{N} \times C$$

A = Assumed Mean

C = Length of the class interval

$\sum f$ = Frequency.

N = Total Number of Frequencies.

D = Deviation of the midpoint to different class intervals from assumed mean.

2. Standard Deviation

The standard deviation measures the dispersion or spread of data points around the mean. It provides information about the variability within a dataset.

$$\text{Standard Deviation } \sigma = C \sqrt{\frac{\sum fd^2}{N} - \left(\frac{\sum fd}{N}\right)^2}$$

C = Length of the class interval

F = Frequency

N = Total number of frequencies

d = Deviation of the midpoint of different class intervals.

3. Pearson's Product Moment Correlation

The product-moment correlation coefficient, often denoted as r_{r} , is a measure of the strength and direction of the linear relationship between two variables. It quantifies the degree to which two variables move together in a systematic way. The product-moment correlation coefficient ranges from -1 to 1, where:

$r=1$ indicates a perfect positive linear relationship,
 $r=-1$ indicates a perfect negative linear relationship,
 $r=0$ indicates no linear relationship between the variables.

$$r = \frac{N\sum XY - \sum X \sum Y}{\sqrt{(N\sum X^2 - (\sum X)^2)(N\sum Y^2 - (\sum Y)^2)}}$$

Where: -

- $\sum X$ = the sum of all X scores in the data.
- $\sum Y$ = the sum of all Y scores in the data.
- $\sum XY$ = Sum of the product of X and Y score.
- $\sum X^2$ = the sum of the squared X scores.
- $\sum Y^2$ = the sum of the squared Y Scores.
- N = Number of scores

4. t' – Test

The t-test is a statistical test used to determine if there is a significant difference between the means of two groups.

$$t = \frac{M_1 - M_2}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}}$$

Where,

- M_1 = Mean of sample 1
- M_2 = Mean of sample 2
- σ_1 = Standard deviation of sample 1
- σ_2 = Standard deviation of sample 2
- N_1 = Number of sample 1
- N_2 = Number of sample 2

5. Chi-Square Test

This test determines whether there is a significant association between two categorical variables.

Null Hypothesis (H_0): The two categorical variables are independent of each other.

Alternative Hypothesis (H_a): The two categorical variables are dependent on each other.

$$\chi^2 = \frac{\sum(f_0 - f_e)^2}{f_e}$$

f_0 = observed frequency

f_e = expected frequency

6. ANOVA

ANOVA is a statistical technique used to compare means across multiple groups to determine if there are significant differences between them.

$$F = \frac{\text{Mean square Variance between the group}}{\text{Mean Square Variance with group}}$$

7. REGRESSION

Regression analysis is used to examine the relationship between one or more independent variables and a dependent variable.

The regression equation used here is as follows

$$LS^* = 0.207DL^* + 105.930$$

DL* - Digital Literacy

LS* - Learning skill

3.21 CONCLUSION

The collected data underwent scoring based on established norms, with respondents' answers evaluated using a scoring key presented in a matrix table format. Subsequently, the scored data were inputted into a computer for thorough analysis. Through this process, the data were tabulated, enabling the identification of patterns and relationships. In the subsequent chapter, the findings derived from this analysis were carefully examined, allowing for meaningful inferences to be drawn in light of the analyzed data.

CHAPTER - IV

ANALYSIS OF DATA

4.1 INTRODUCTION

The analysis of data delves into the intricate relationship between digital literacy and Learning Skills, aiming to uncover the nuances that shape individuals' abilities to thrive in a digitally-driven world. By examining various facets of digital literacy, including proficiency in using digital tools, critical evaluation of online information, and ethical digital behaviour, this research seeks to illuminate the pathways through which digital literacy influences learning processes. Furthermore, this analysis explores how digital literacy intersects with diverse educational contexts, from formal classroom settings to informal online learning environments. By scrutinizing the effectiveness of digital literacy interventions and instructional approaches, this research endeavours to provide insights into optimizing educational practices for fostering digital literacy competencies among learners.

4.2 DIGITAL LITERACY AMONG RURAL SCHOOL STUDENTS

4.2.1 Level of Digital Literacy among rural school students

1. To find out the level of digital literacy among rural school students.

Table 4.1.1

Level of Digital Literacy among Rural School Students

Dimensions	Low		Moderate		High	
	N	%	N	%	N	%
Information processing	52	17.3	186	62.0	62	20.7
Content creation	95	31.7	137	45.7	68	22.6
Communication	23	7.7	257	85.7	20	6.6
Safety	41	13.7	211	70.3	48	16.0
Problem-solving	49	16.3	216	72.0	35	11.7
Digital Literacy	57	19.0	175	58.3	68	22.7

The above table (4.1.1) shows that the level of digital literacy and its dimensions of Rural School Students in terms of total sample. Among the total sample 17.3% have low, 62.0% have moderate and 20.7% have high-level of information processing. Among them 31.7% have low, 45.7% have moderate and 22.7% have high-level of content creation. Among them 7.7% have low, 85.7% have moderate and 6.6% have high-level of communication. Among them 24.9% have low, 51.7% have moderate and 23.4% have high-level of safety. Among them

16.3% have low, 72.0% have moderate and 11.7% have high-level of problem solving. Among them 19.0% have low, 58.3% have moderate and 22.6% have high-level of Digital Literacy.

2. To find out the level of Digital Literacy of Rural School students regarding the background variables.

Table 4.1.2

Level of Digital Literacy of Rural School Students regarding the background variables

Background variables	Category	Digital Literacy					
		Low		Moderate		High	
		N	%	N	%	N	%
Gender	Male	24	16.0	72	48.0	54	36.0
	Female	33	22.0	103	68.7	14	9.3
Medium of instruction	English	39	16.3	132	55.2	68	28.5
	Tamil	18	30.0	42	70.0	0	0.0
Type of family	Joint	14	16.3	49	57.0	23	26.7
	Nuclear	43	20.1	126	58.9	45	21.0
Fathers' Educational qualification	Illiterate	5	16.1	17	54.8	9	29.0
Mothers' Educational qualification	School	45	21.0	120	56.1	49	22.9
	College	7	12.7	38	69.1	10	18.2
Fathers' occupation	Illiterate	2	6.7	19	63.3	9	30.0
	School	48	21.9	127	58.0	44	20.1
Mothers' occupation	College	7	13.7	29	56.9	15	29.4
	Daily wages	20	16.9	70	59.3	28	23.7
	Private	37	36.4	102	122.6	38	41
Family monthly income	Government	0	0.0	3	60.0	2	40.0
	Daily wages	37	21.4	97	56.1	39	22.5
	Private	20	31.9	78	131.9	28	36.2
Family monthly income	Government	0	0.0	0	0.0	1	100.0
	Below ₹10000	30	22.2	67	49.6	38	28.1
	₹ 10001-₹ 20000	18	21.7	50	60.2	15	18.1
Family monthly income	Above ₹ 20000	9	31.8	58	118.4	15	49.8

The above table (4.1.2) shows that among the total sample, 16.0% of male and 22.0% of female rural school students have low digital literacy, while 48.0% and 68.7% of them have moderate, and 36.0% and 9.3% have high levels of digital literacy.

Among rural school students, 16.3% from English medium and 30.0% from Tamil medium backgrounds have low digital literacy. Additionally, 57.0% and 58.9% of them have moderate, while 26.7% and 21.0% have high levels of digital literacy.

Among rural school students, 16.3% from joint families and 20.1% from nuclear families have low digital literacy. Furthermore, 57.0% and 58.9% of them have moderate, while 26.7% and 21.0% have high levels of digital literacy.

Among rural school students, 16.1% of fathers who did not complete college have low digital literacy, whereas 21.0% who completed school and 12.7% who completed college have low levels. Additionally, 54.8%, 56.1%, and 69.1% of them have moderate, while 22.9%, 18.2%, and 30.0% have high levels of digital literacy.

Among rural school students, 6.7% of mothers who did not complete college have low digital literacy, whereas 21.9% who completed school and 13.7% who completed college have low levels. Furthermore, 63.3%, 58.0%, and 56.9% of them have moderate, while 30.0%, 20.1%, and 29.4% have high levels of digital literacy.

The employment status of fathers of rural school students is distributed as follows: 16.9% are engaged in daily wage jobs, 36.4% work in private sectors, and none are employed in government positions. Additionally, 59.3%, 122.6%, and 60.0% of them exhibit moderate digital literacy for each respective employment category, while 23.7%, 41%, and 40.0% exhibit high levels of digital literacy.

The employment status of mothers of rural school students is distributed as follows: 21.4% are engaged in daily wage jobs, 31.9% work in private sectors, and none are employed in government positions exhibit low digital literacy. Additionally, 56.1%, 131.9%, 0%, of them exhibit moderate digital literacy for each respective employment category, while 22.5%, 36.2% and 100% exhibit high levels of digital literacy.

The family monthly income of rural school students is distributed as follows: 22.2% of their income is below ₹10,000, 21.7% fall within the range of ₹10,001 to ₹20,000, 31.8% fall above ₹20,000. Additionally, 49.6%, 60.2%, 118.4% of them exhibit moderate digital literacy for each respective income category, while 28.1%, 18.1%, 49.8% exhibit high levels of digital literacy.

4.2.2 SIGNIFICANT DIFFERENCE BETWEEN THE VARIABLES

H₀1: There is no significant difference between digital literacy of Rural School Students and its dimensions: Information processing, content creation, communication, safety and problem-solving with reference to gender.

Table 4.1.3

Difference between Digital Literacy of Rural School Students and its dimensions: Information Processing, Content Creation, Communication, Safety and Problem-Solving with reference to Gender

Dimensions	Gender	N	Mean	S.D.	Calculated 't' Value	'P' value	Remarks
Information processing	Male	150	13.07	2.199	4.556	0.000	S
	Female	150	12.01	1.841			
Content creation	Male	150	12.74	1.985	3.867	0.000	S
	Female	150	11.87	1.927			
Communication	Male	150	10.65	1.581	1.640	0.102	NS
	Female	150	10.36	1.444			
Safety	Male	150	10.57	1.826	0.032	0.974	NS
	Female	150	10.58	1.766			
Problem-solving	Male	150	12.92	2.623	4.411	0.000	S
	Female	150	11.65	2.343			
Digital Literacy	Male	150	59.95	7.246	3.053	0.002	S
	Female	150	56.47	6.378			

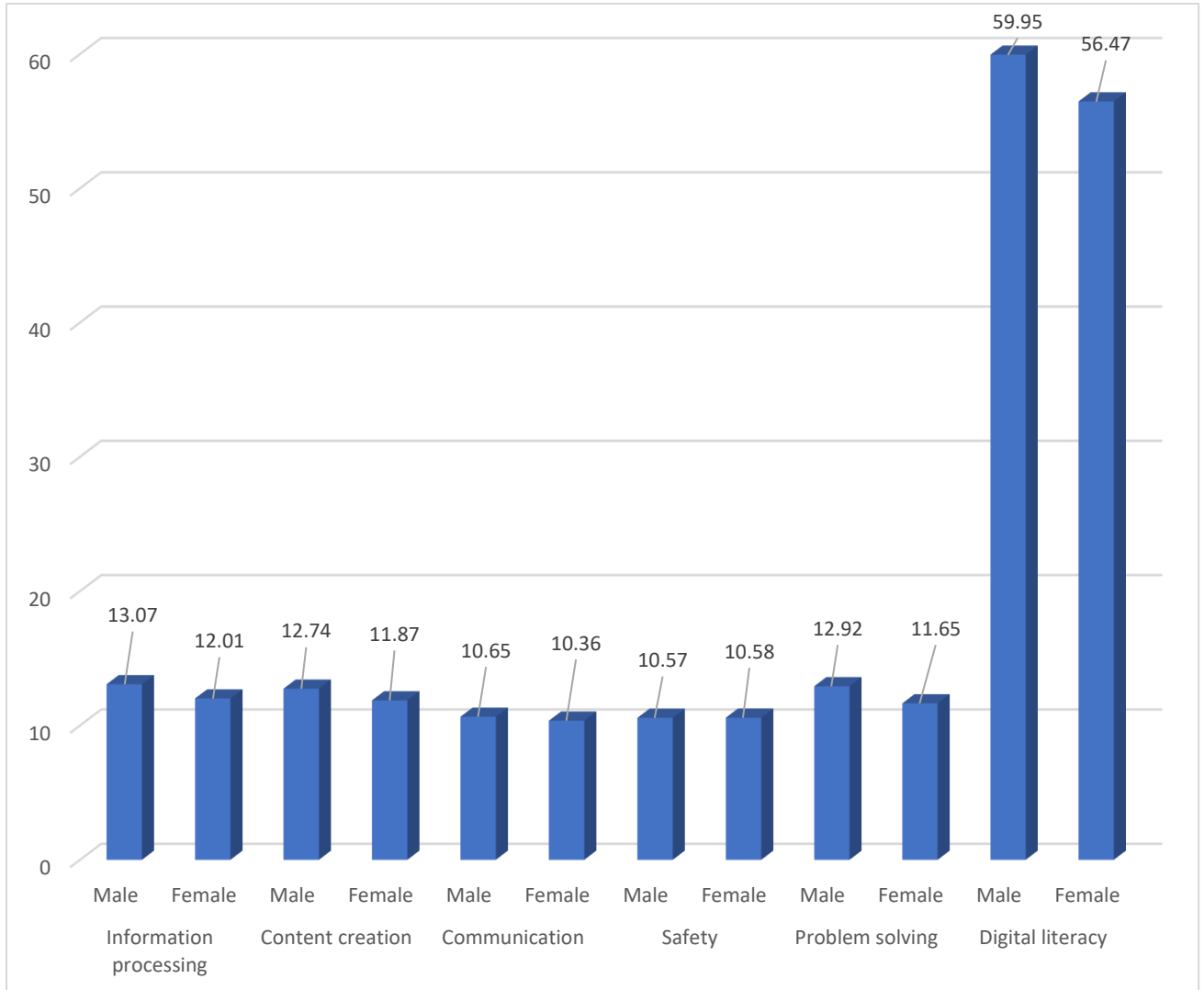
(At 5% level of significance the table value of 't' is 1.96)

Based on the above table, it appears that there are no significant differences in communication and safety among male and female rural school students. The calculated values are less than the table value. Hence the Null hypothesis is accepted. Despite this, there are significant differences between male and female rural school students in the dimensions: information processing, content creation, problem solving, and digital literacy. The calculated values are greater than the table value. Thus Null hypothesis is rejected.

When comparing the average scores of male rural school students (mean=13.07, 12.74, 12.92 & 59.95) and female rural school students (mean=12.01, 11.87, 10.36 & 56.47), the male rural school students outperformed their female counterparts in information processing, content creation, communication, and digital literacy.

Figure 4.1

**Difference between Digital Literacy of Rural School Students and its dimensions:
Information Processing, Content Creation, Communication, Safety and Problem-Solving
with reference to Gender**



H₀2: There is no significant difference between digital literacy of rural school students and its dimensions: information processing, content creation, communication, safety and problem-solving with reference to medium of instruction.

Table 4.1.4

Difference between digital literacy of rural school students and its dimensions: information processing, content creation, communication, safety and problem-solving with reference to medium of instruction

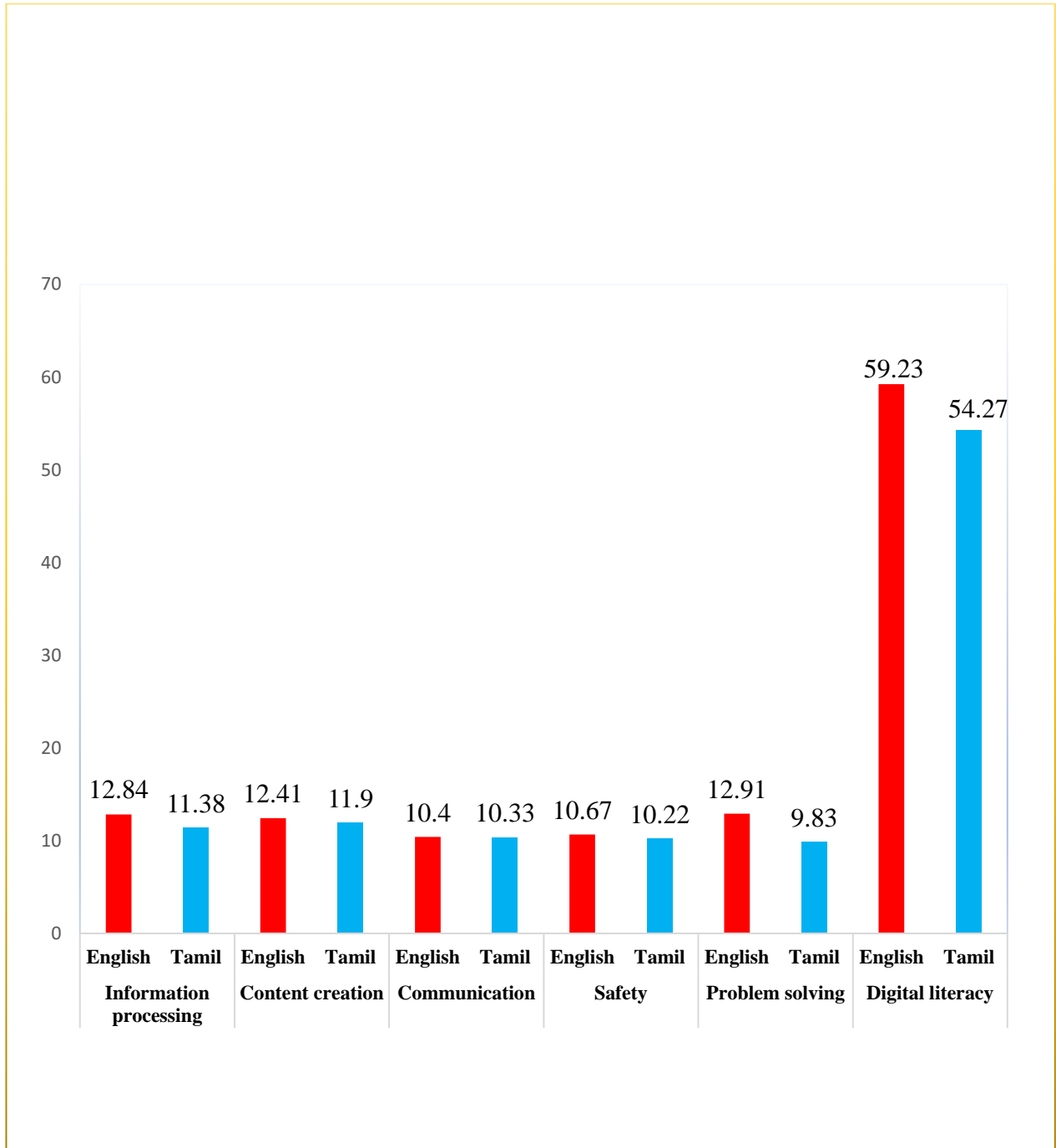
Dimensions	Medium	N	Mean	S.D.	Calculated 't' Value	'P' value	Remarks
Information processing	English	240	12.84	2.150	6.543	0.000	S
	Tamil	60	11.38	1.342			
Content creation	English	240	12.41	2.181	2.705	0.007	S
	Tamil	60	11.90	.951			
Communication	English	240	10.40	1.536	2.615	0.010	S
	Tamil	60	10.33	1.388			
Safety	English	240	10.67	1.769	1.771	0.089	NS
	Tamil	60	10.22	1.860			
Problem-solving	English	240	12.91	2.412	12.808	0.000	S
	Tamil	60	9.83	1.416			
Digital Literacy	English	240	59.23	7.191	6.540	0.000	S
	Tamil	60	54.27	4.639			

(At 5% level of significance the table value of 't' is 1.96)

Based on the above table, it appears that there is no significant difference between English and Tamil medium among rural school students in safety. The calculated values are less than the table value. Hence the Null hypothesis is accepted. Despite this, there are significant differences between English and Tamil medium rural school students in the dimensions: information processing, content creation, communication, problem solving, and digital literacy. The calculated values are greater than the table value. Thus Null hypothesis is rejected. When comparing the average scores of English medium rural school students (mean=12.84, 12.41, 10.40, 12.91 & 59.23) and Tamil medium rural school students (mean=11.38, 11.90, 10.33, 9.83 & 54.27), the English medium rural school students outperformed their Tamil medium counterparts in information processing, content creation, communication, problem solving and digital literacy.

Figure 4.2

**Difference between Digital Literacy of Rural School Students and its dimensions:
Information Processing, Content Creation, Communication, Safety and Problem-
Solving with reference to medium of instruction**



H₀3: There is no significant difference between digital literacy of Rural School Students and its dimensions: Information processing, content creation, communication, safety and problem-solving with reference to type of family.

Table 4.1.5

Difference between Digital Literacy of Rural School Students and its dimensions: Information Processing, Content Creation, Communication, Safety and Problem-Solving with reference to type of family

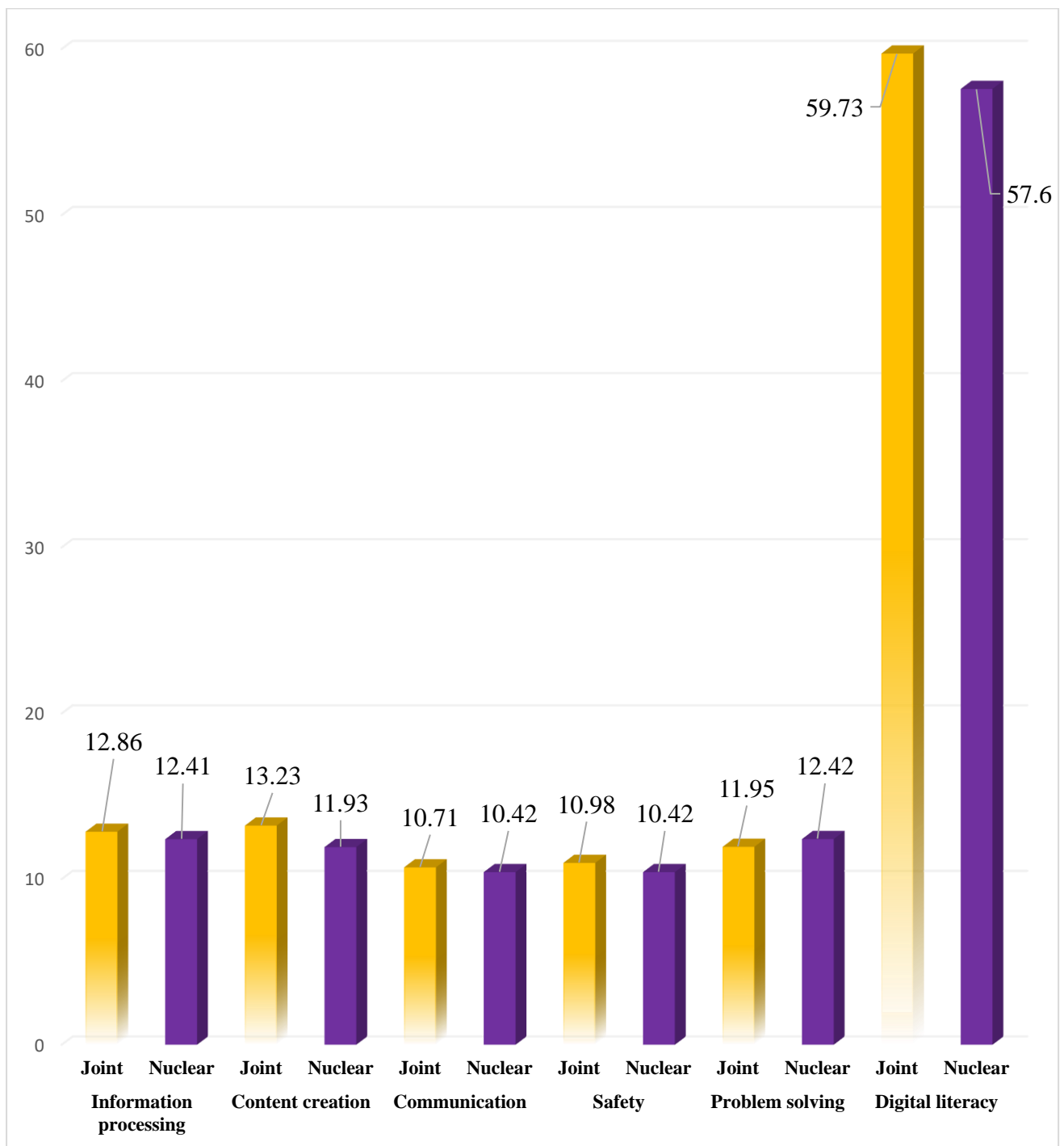
Dimensions	Type of family	N	Mean	S.D.	Calculated 't' Value	'P' value	Remarks
Information processing	Joint	86	12.86	2.093	1.686	0.094	NS
	Nuclear	214	12.41	2.085			
Content creation	Joint	86	13.23	1.685	5.729	0.000	S
	Nuclear	214	11.93	2.000			
Communication	Joint	86	10.71	1.502	1.501	0.135	NS
	Nuclear	214	10.42	1.520			
Safety	Joint	86	10.98	2.041	2.471	0.014	S
	Nuclear	214	10.42	1.661			
Problem-solving	Joint	86	11.95	2.585	1.430	0.154	NS
	Nuclear	214	12.42	2.547			
Digital Literacy	Joint	86	59.73	7.249	2.395	0.017	S
	Nuclear	214	57.60	6.869			

(At 5% level of significance the table value of 't' is 1.96)

Based on the above table, it appears that there is no significant difference between joint and nuclear rural school students in information processing, communication, and problem solving. The calculated values are less than the table value. Hence the Null hypothesis is accepted. Despite this, there are significant differences between joint and nuclear family rural school students in the dimensions: content creation, safety and digital literacy. The calculated values are greater than the table value. Thus Null hypothesis is rejected. When comparing the average scores of joint family rural school students (mean=13.23, 10.98, &59.73) and nuclear family rural school students (mean=11.93, 10.42, & 57.60), the Joint family rural school students outperformed their nuclear family counterparts in content creation, safety, and digital literacy.

Figure 4.3

**Difference between Digital Literacy of Rural School Students and its dimensions:
Information Processing, Content Creation, Communication, Safety and Problem-
Solving with reference to type of family**



4.2.3 SIGNIFICANT ASSOCIATION BETWEEN THE VARIABLES

H₀4: There is no significant association between fathers' educational Qualification and Digital Literacy and its dimensions of Rural School Students.

Table 4.1.6

Association between Fathers' Educational Qualification and Digital Literacy and its dimensions of Rural School Students

Dimensions	df	Calculated 'χ^2' value	'P' Value	Remarks
Information processing		3.264	0.515	NS
Content creation		4.593	0.332	NS
Communication	4	24.145	0.000	S
Safety		19.597	0.001	S
Problem solving		2.590	0.629	NS
Digital Literacy		4.127	0.389	S

(At 5% level of significance, for 4df the table value of χ^2 is 9.488)

It is inferred from the above table that there is no significant association between fathers' educational Qualification and information processing, content creation, and problem solving of Rural School Students. The calculated values are less than the table value. Hence the Null hypothesis is accepted. But there is a significant association between fathers' educational Qualification and communication, safety, and digital literacy of Rural School Students. The calculated values are greater than the table value. Thus Null hypothesis is rejected.

H₀₅: There is no significant association between mothers' educational Qualification and digital literacy and its dimensions of Rural School Students.

Table 4.1.7

Association between Mothers' Educational Qualification and Digital Literacy and its dimensions of Rural School Students

Dimensions	df	Calculated 'χ^2' value	'P' Value	Remarks
Information processing	4	24.387	0.000	S
Content creation		7.236	0.124	NS
Communication		9.011	0.061	NS
Safety		4.591	0.332	NS
Problem solving		12.696	0.013	S
Digital Literacy		6.658	0.155	NS

(At 5% level of significance, for 4 df the table value of χ^2 is 9.488)

It is inferred from the above table that there is no significant association between mothers' educational qualification and content creation, communication, safety, and digital literacy of Rural School Students. The calculated values are less than the table value. Hence the Null hypothesis is accepted. But there is a significant association between mothers' educational Qualification and information processing, and problem solving of Rural School Students. The calculated values are greater than the table value. Thus Null hypothesis is rejected.

H₀6: There is no significant association between fathers' occupation and digital literacy and its dimensions of Rural School Students.

Table 4.1.8
Association between Fathers' Occupation and Digital Literacy and its dimensions of Rural School Students

Dimensions	df	Calculated ' χ^2 ' value	'P' Value	Remarks
Information processing		21.743	0.001	S
Content creation		18.275	0.006	S
Communication		5.971	0.426	NS
Safety	6	5.249	0.512	NS
Problem solving		20.440	0.002	S
Digital Literacy		4.691	0.584	NS

(At 5% level of significance, for 6df the table value of χ^2 is 12.592)

It is inferred from the above table that there is no significant association between fathers' occupation and communication, safety, and digital literacy of Rural School Students. The calculated values are less than the table value. Hence the Null hypothesis is accepted. But there is a significant association between fathers' occupation and information processing, content creation, and problem solving of Rural School Students. The calculated values are greater than the table value. Thus Null hypothesis is rejected.

H₀₇: There is no significant association between mothers' occupation and digital literacy and its dimensions of Rural School Students.

Table 4.1.9
Association between Mothers' Occupation and Digital Literacy and its dimensions of Rural School Students

Dimensions	df	Calculated 'χ^2' value	'P' Value	Remarks
Information processing	6	16.032	0.014	S
Content creation		7.743	0.258	NS
Communication		7.153	0.307	NS
Safety		19.970	0.003	S
Problem solving		16.822	0.010	S
Digital Literacy		11.329	0.079	NS

(At 5% level of significance, for 6df the table value of χ^2 is 12.592)

It is inferred from the above table that there is no significant association between mothers' occupation and content creation, communication, and digital literacy of Rural School Students. The calculated values are less than the table value. Hence the Null hypothesis is accepted. But there is a significant association between mothers' occupation and information processing, safety, and problem solving of Rural School Students. The calculated values are greater than the table value. Thus Null hypothesis is rejected.

H₀8: There is no significant association between family monthly income and digital literacy and its dimensions of Rural School Students.

Table 4.1.10

Association between Family Monthly Income and Digital Literacy and its dimensions of Rural School Students

Dimensions	df	Calculated 'χ^2' value	'P' Value	Remarks
Information processing	6	5.825	0.443	NS
Content creation		4.899	0.557	NS
Communication		14.769	0.022	S
Safety		10.580	0.102	NS
Problem solving		16.336	0.012	S
Digital Literacy		13.932	0.030	S

(At 5% level of significance, for 6 df the table value of χ^2 is 12.592)

It is inferred from the above table that there is no significant association between family monthly income and information processing, content creation, and safety of Rural School Students. The calculated values are less than the table value. Hence the Null hypothesis is accepted. But there is a significant association between family monthly income and communication, problem solving, and digital literacy of Rural School Students. The calculated values are greater than the table value. Thus Null hypothesis is rejected.

4.3 LEARNING SKILLS AMONG RURAL SCHOOL STUDENTS

4.3.1 Level of Learning Skills among rural school students

1. To find out the level of Learning Skills among rural school students.

Table 4.2.1
Level of Learning Skills among Rural School Students

Dimensions	Low		Moderate		High	
	N	%	N	%	N	%
Reflection	49	16.3	202	67.3	49	16.3
Knowledge and understanding	43	14.3	185	61.7	72	24.0
Skills and strategies	59	19.7	193	64.3	48	16.0
Confidence and independence	98	32.7	154	51.3	48	16.0
Creativity	65	21.7	160	53.3	75	25.0
Learning Skills	70	23.3	164	54.7	66	22.0

The above table (4.2.1) shows the level of Learning Skills and its dimensions of Rural School Students in terms of total sample. Among the total sample 16.3% have low, 67.3% have moderate and 16.3% have high-level of reflection. Among them 14.3% have low, 61.7% have moderate and 24.0% have high-level of knowledge and understanding. Among them 19.7% have low, 64.3% have moderate and 16.0% have high-level of skills and strategies. Among them 32.7% have low, 51.3% have moderate and 16.0% have high-level of confidence and independence. Among them 21.7% have low, 53.3% have moderate and 25.0% have high-level of creativity. Among them 23.3% have low, 54.7% have moderate and 22.0% have high-level of Learning Skills.

2. To find out the level of Learning Skills of Rural School Students regarding the background variables.

Table 4.2.2

Level of Learning Skills of Rural School Students regarding the background variables

Background variables	Category	Learning Skills					
		Low		Moderate		High	
		N	%	N	%	N	%
Gender	Male	48	32.0	87	58.0	15	10.0
	Female	22	14.7	77	51.3	51	34.0
Medium of instruction	English	67	28.0	126	52.7	46	19.2
	Tamil	3	5.0	38	63.3	19	31.7
Type of family	Joint	18	20.9	45	52.3	23	26.7
	Nuclear	52	24.3	119	55.6	43	20.1
Fathers' Educational qualification	Illiterate	6	19.4	17	54.8	8	25.8
	School	50	23.4	117	54.7	47	22.0
Mothers' Educational qualification	College	14	25.5	30	54.5	11	20.0
	Illiterate	3	10.0	20	66.7	7	23.3
Fathers' occupation	School	53	24.2	112	51.1	54	24.7
	College	14	27.5	32	62.7	5	9.8
Mothers' occupation	Daily wages	38	32.2	58	49.2	22	18.6
	Private	32	28.8	101	121.9	44	49.3
	Government	0	0.0	5	100.0	0	0.0
Family monthly income	Daily wages	36	20.8	100	57.8	37	21.4
	Private	34	55.5	63	97.6	29	46.8
	Government	0	0.0	1	100.0	0	0.0
Family monthly income	Below ₹.10000	21	15.6	76	56.3	38	28.1
	₹ 10001-₹ 20000	19	22.9	43	51.8	21	25.3
	Above ₹20000	30	99.6	45	81.1	7	19.3

The above table (4.2.2) shows the level of Learning Skills and its dimensions of Rural School Students regarding gender. Among the total sample 32.0% male and 14.7% female Rural School Students have low, 58.0% and 51.3% of them have moderate and 10.0% and 34.0% have high level of Learning Skills.

Among them 28.0% English and 5.0% Tamil medium Rural School Students have low, 52.7% and 63.3% of them have moderate and 19.2% and 31.7% of them have high level of Learning Skills.

Among them 20.9% Joint families and 24.3% Nuclear family's Rural School Students have low, 52.3% and 55.6% of them have moderate and 26.7% and 21.0% of them have high level of Learning Skills.

19.4% of Rural School Students' fathers do not have a high level of Learning Skills, 23.4% studied in school and 25.5% in college have low and 54.8%,54.7% and 54.5% of them have moderate and 25.8%, 22.0% and 20.0% have high levels of Learning Skills.

10.0% of Rural School Students' mothers do not have a high level of Learning Skills, 24.2% studied in school and 27.5% in college have low and 66.7%,51.1% and 62.7% of them have moderate and 23.3%, 24.7% and 9.8% have high levels of Learning Skills.

Fathers of Rural School Students have 32.2% of their job through daily wages, 20.7% through business, 8.1% through private work, and 0.0% through government employment have low and 49.2%, 54.3%, 67.6% and 100.0% of them have moderate and 18.6%, 25.0%, 24.3%, and 0.0% have high levels of Learning Skills.

Mothers of Rural School Students have 20.8% of their job through daily wages, 25.8% through business, 29.7% through private work, and 0.0% through government employment have low and 57.8%, 51.7%, 45.9% and 100.0% of them have moderate and 21.4%, 22.5%, 24.3%, and 0.0% have high levels of Learning Skills.

Family monthly income of Rural School Students have 15.6% of their income below ₹ 10000, 22.9% of their income from ₹10001 - ₹20000, 32.9% of their income above ₹2000, have low level of learning skills and 22.9 %, of their income below ₹ 10000 51.8% of their income from ₹10001 - ₹20000 and 25.3% of their income above ₹2000 have moderate and 99.6% of their income below ₹ 10000 , 81.1% from ₹10001 - ₹20000 and 19.3% of their income above ₹2000 have high levels of Learning Skills.

4.3.2 SIGNIFICANT DIFFERENCE BETWEEN THE VARIABLES

H₀9: There is no significant difference between Learning Skills of Rural School Students and its dimensions: reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity with reference to gender.

Table 4.2.3

Difference between Learning Skills of Rural School Students and its dimensions: Reflection, Knowledge and understanding, Skills and strategies, Confidence and independence and Creativity with reference to Gender

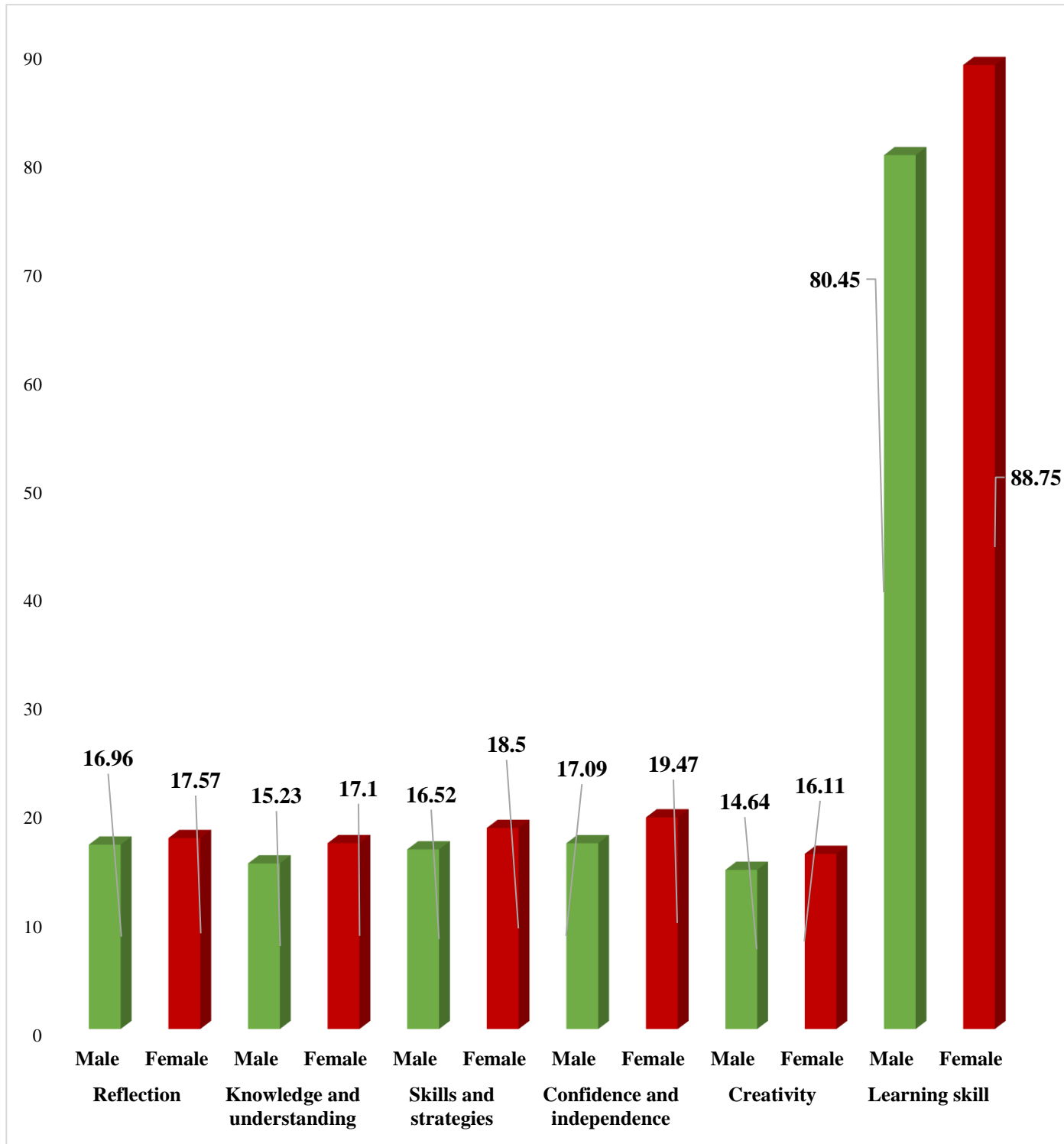
Dimensions	Gender	N	Mean	S.D.	Calculated 't' Value	'P' value	Remarks
Reflection	Male	150	16.96	3.264	1.640	0.102	NS
	Female	150	17.57	3.142			
Knowledge and understanding	Male	150	15.23	2.671	6.659	0.000	S
	Female	150	17.10	2.157			
Skills and strategies	Male	150	16.52	3.200	5.986	0.000	S
	Female	150	18.50	2.484			
Confidence and independence	Male	150	17.09	4.374	5.680	0.000	S
	Female	150	19.47	2.684			
Creativity	Male	150	14.64	3.037	4.148	0.000	S
	Female	150	16.11	3.087			
Learning Skills	Male	150	80.45	13.116	6.107	0.000	S
	Female	150	88.75	10.247			

(At 5% level of significance the table value of 't' is 1.96)

Based on the above table, it appears that there is no significant difference in reflection among male and female rural school students. The calculated values are less than the table value. Hence the Null hypothesis is accepted. Despite this, there are significant differences between male and female rural school students in the dimensions: knowledge and understanding, skills and strategies, confidence and independence, Creativity, and Learning Skills. The calculated values are greater than the table value. Thus Null hypothesis is rejected. When comparing the average scores of male rural school students (mean=15.23, 16.52, 17.09, 14.64, & 80.45) and female rural school students (mean=17.10, 18.50, 19.47, 16.11 & 88.75), the female rural school students outperformed their male counterparts in knowledge and understanding, skills and strategies, confidence and independence, Creativity, and Learning Skills.

Figure 4.4

Difference between Learning Skills of Rural School Students and its dimensions: Reflection, Knowledge and understanding, Skills and strategies, Confidence and independence and Creativity with reference to Gender



H₀10: There is no significant difference between Learning Skills of Rural School Students and its dimensions: reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity with reference to medium of instruction.

Table 4.2.4

Difference between Learning Skills of Rural School Students and its dimensions: Reflection, Knowledge and understanding, Skills and strategies, Confidence and independence and Creativity with reference to medium of instruction

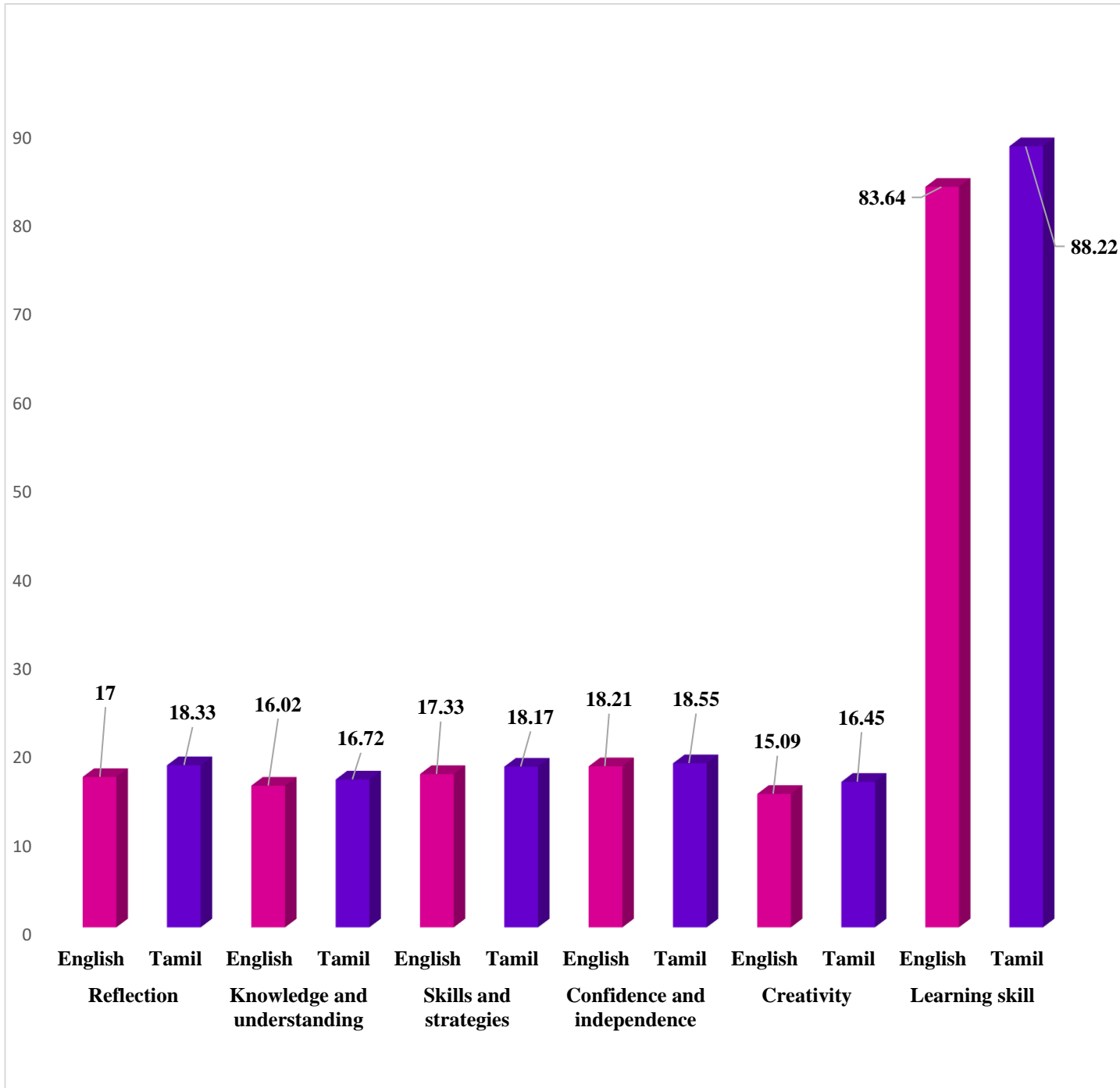
Dimensions	Medium	N	Mean	S.D.	Calculated 't' Value	'P' value	Remarks
Reflection	English	240	17.00	4.639	3.718	0.000	S
	Tamil	60	18.33	3.375			
Knowledge and understanding	English	240	16.02	2.214	2.161	0.033	S
	Tamil	60	16.72	2.690			
Skills and strategies	English	240	17.33	2.116	2.675	0.008	S
	Tamil	60	18.17	3.235			
Confidence and independence	English	240	18.21	1.815	0.765	0.446	NS
	Tamil	60	18.55	4.037			
Creativity	English	240	15.09	2.795	3.655	0.000	S
	Tamil	60	16.45	3.253			
Learning Skills	English	240	83.64	2.382	3.399	0.001	S
	Tamil	60	88.22	13.194			

(At 5% level of significance the table value of 't' is 1.96)

Based on the above table, it appears that there is no significant difference in confidence and independence among English medium and Tamil medium rural school students. The calculated values are less than the table value. Hence the Null hypothesis is accepted. Despite this, there are significant differences between English medium and Tamil medium rural school students in the dimensions: reflection, knowledge and understanding, skills and strategies, creativity, and Learning Skills. The calculated values are greater than the table value. Thus Null hypothesis is rejected. When comparing the average scores of English medium rural school students (mean=17.00, 16.02, 17.33, 15.09 & 83.64) and Tamil medium rural school students (mean=18.33, 16.72, 18.17, 16.45 & 88.22), the Tamil medium rural school students outperformed their English medium counterparts in reflection, knowledge and understanding, skills and strategies, creativity, and Learning Skills.

Figure 4.5

Difference between Learning Skills of Rural School Students and its dimensions: Reflection, Knowledge and understanding, Skills and strategies, Confidence and independence and Creativity with reference to medium of instruction



H₀11: There is no significant difference between Learning Skills of Rural School Students and its dimensions: reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity with reference to type of family.

Table 4.2.5

Difference between Learning Skills of Rural School Students and its dimensions: Reflection, Knowledge and understanding, Skills and strategies, Confidence and independence and Creativity with reference to type of family

Dimensions	Type of family	N	Mean	S.D.	Calculated 't' Value	'P' value	Remarks
Reflection	Joint	86	18.07	2.930	2.921	0.004	S
	Nuclear	214	16.94	3.270			
Knowledge and understanding	Joint	86	16.37	2.701	0.848	0.398	NS
	Nuclear	214	16.08	2.557			
Skills and strategies	Joint	86	17.37	2.718	0.532	0.596	NS
	Nuclear	214	17.57	3.146			
Confidence and independence	Joint	86	17.92	2.854	1.050	0.294	NS
	Nuclear	214	18.43	4.134			
Creativity	Joint	86	15.78	2.813	1.511	0.133	NS
	Nuclear	214	15.21	3.260			
Learning Skills	Joint	86	85.51	10.943	0.868	0.387	NS
	Nuclear	214	84.23	13.030			

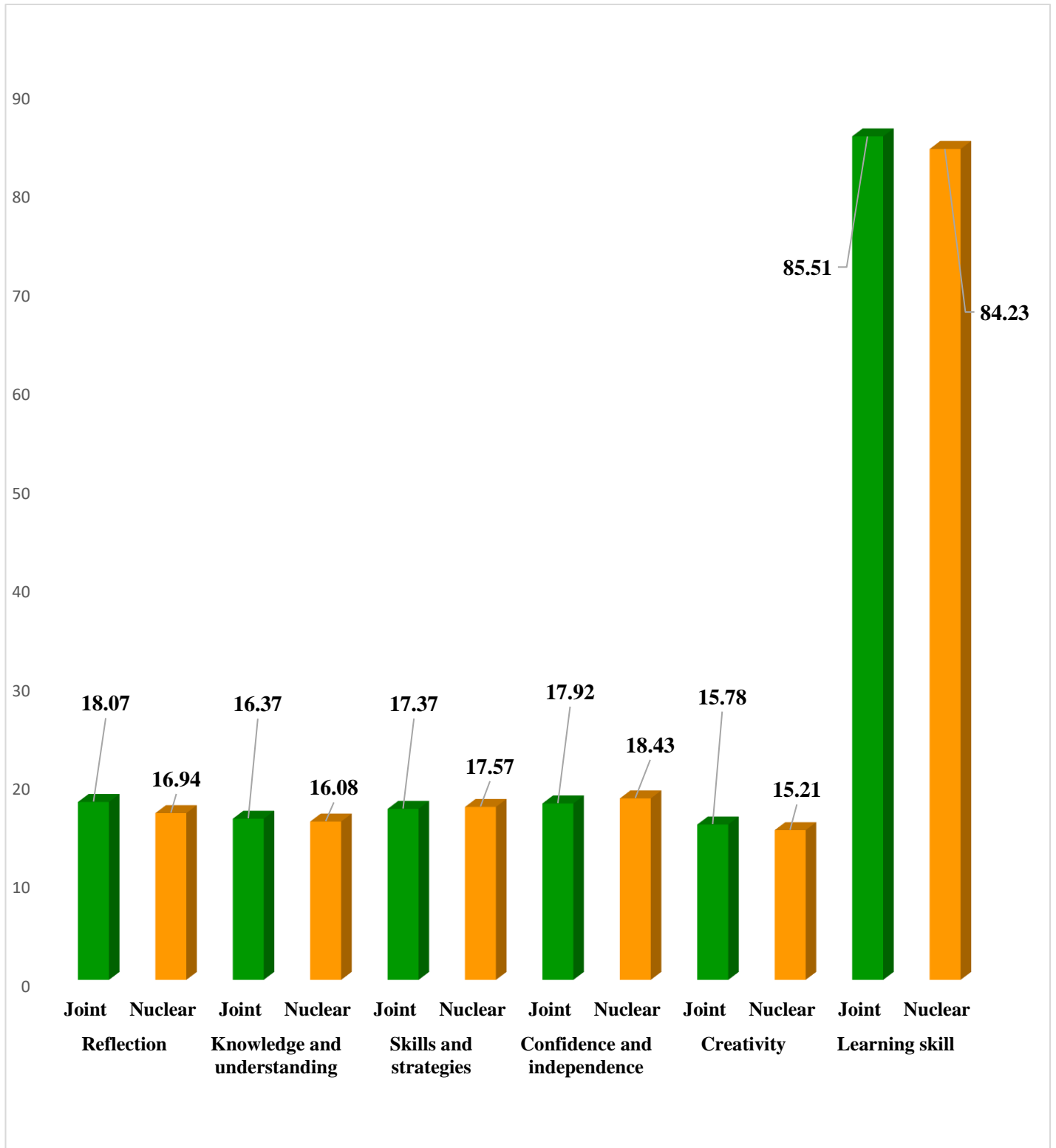
(At 5% level of significance the table value of 't' is 1.96)

Based on the above table, it appears that there is no significant difference in knowledge and understanding, skills and strategies, confidence and independence and creativity among joint and nuclear family rural school students. The calculated values are less than the table value. Hence the Null hypothesis is accepted. Despite this, there are significant differences between joint and nuclear family rural school students in reflection. The calculated values are greater than the table value. Thus Null hypothesis is rejected.

When comparing the average scores of joint family rural school students (mean=18.07) and nuclear family rural school students (mean=16.94), the Joint family rural school students outperformed their nuclear family counterparts in reflection.

Figure 4.6

**Difference between Learning Skills of Rural School Students and its dimensions:
Reflection, Knowledge and understanding, Skills and strategies, Confidence and
independence and Creativity with reference to type of family**



4.3.3 SIGNIFICANT ASSOCIATION BETWEEN THE VARIABLES

H₀12: There is no significant association between Fathers' Educational Qualification and Learning Skills and its dimensions of Rural School Students.

Table 4.2.6

Association between Fathers' Educational Qualification and Learning Skills and its dimensions of Rural School Students

Dimensions	Df	Calculated 'χ^2' value	'P' Value	Remarks
Reflection		8.083	0.089	NS
Knowledge and understanding		5.501	0.240	NS
Skills and strategies	4	5.870	0.209	NS
Confidence and independence		7.913	0.095	NS
Creativity		7.801	0.099	NS
Learning Skills		0.621	0.961	NS

(At 5% level of significance, for 4 df the table value of χ^2 is 9.488)

It is inferred from the above table that there is no significant association between Fathers' Educational Qualification and reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity and Learning Skills of Rural School Students. The calculated values are less than the table value. Hence the Null hypothesis is accepted.

H₀13: There is no significant association between Mothers' Educational Qualification and Learning Skills and its dimensions of Rural School Students.

Table 4.2.7
Association between Mothers' Educational Qualification and Learning Skills and its dimensions of Rural School Students

Dimensions	Df	Calculated ' χ^2 ' value	'P' Value	Remarks
Reflection		15.931	0.003	S
Knowledge and understanding		7.178	0.127	NS
Skills and strategies		17.717	0.001	S
Confidence and independence	4	12.925	0.012	S
Creativity		7.366	0.118	NS
Learning Skills		8.799	0.066	NS

(At 5% level of significance, for 4 df the table value of χ^2 is 9.488)

It is inferred from the above table that there is no significant association between Mothers' Educational Qualification and knowledge and understanding, creativity and Learning Skills of Rural School Students. The calculated values are less than the table value. Hence the Null hypothesis is accepted. But there is a significant association between Mothers' Educational Qualification and reflection, skills and strategies, and confidence and independence of Rural School Students. The calculated values are greater than the table value. Thus Null hypothesis is rejected.

H₀14: There is no significant association between fathers' occupation and Learning Skills and its dimensions of Rural School Students.

Table 4.2.8

Association between Fathers' Occupation and Learning Skills and its dimensions of Rural School Students

Dimensions	Df	Calculated		Remarks
		' χ^2 ' value	'P' Value	
Reflection		12.782	0.047	NS
Knowledge and understanding		8.589	0.198	NS
Skills and strategies		10.817	0.094	NS
Confidence and independence	6	13.212	0.040	S
Creativity		16.910	0.010	S
Learning Skills		15.267	0.018	S

(At 5% level of significance, for 6 df the table value of χ^2 is 12.592)

It is inferred from the above table that there is no significant association between fathers' occupation and reflection, knowledge and understanding, and Skills and strategies of Rural School Students. The calculated values are less than the table value. Hence the Null hypothesis is accepted. But there is a significant association between fathers' occupation and confidence and independence, creativity and Learning Skills of Rural School Students. The calculated values are greater than the table value. Thus Null hypothesis is rejected.

H₀15: There is no significant association between mothers' occupation and Learning Skills and its dimensions of Rural School Students.

Table 4.2.9

Association between Mothers' Occupation and Learning Skills and its dimensions of Rural School Students

Dimensions	df	Calculated 'χ^2' value	'P' Value	Remarks
Reflection	6	2.021	0.918	NS
Knowledge and understanding		6.834	0.336	NS
Skills and strategies		5.158	0.524	NS
Confidence and independence		18.133	0.006	S
Creativity		7.969	0.240	NS
Learning Skills		3.291	0.772	NS

(At 5% level of significance, for 6 df the table value of χ^2 is 12.592)

It is inferred from the above table that there is no significant association between Mothers' occupation and reflection, knowledge and understanding, Skills and strategies, creativity and Learning Skills of Rural School Students. The calculated values are less than the table value. Hence the Null hypothesis is accepted. But there is a significant association between others' occupation and confidence and independence of Rural School Students. The calculated values are greater than the table value. Thus Null hypothesis is rejected.

H₀16: There is no significant association between family monthly income and Learning Skills and its dimensions of Rural School Students.

Table 4.2.10

Association between Family Monthly Income and Learning Skills and its dimensions of Rural School Students

Dimensions	df	Calculated 'χ^2' value	'P' Value	Remarks
Reflection	6	22.690	0.001	S
Knowledge and understanding		36.203	0.001	S
Skills and strategies		14.456	0.025	S
Confidence and independence		34.460	0.000	S
Creativity		26.632	0.000	S
Learning Skills		25.279	0.000	S

(At 5% level of significance, for 6 df the table value of χ^2 is 12.592)

It is inferred from the above table that there is significant association between family monthly income and reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity of Rural School Students. The calculated values are greater than the table value. Thus Null hypothesis is rejected.

4.4 CORRELATION ANALYSIS

H₀17: There is no significant relationship between digital literacy and Learning Skills among Rural School Students.

Table 4.3.1
Relationship between Digital Literacy and Learning Skills among
Rural School Students

Variable	Df	Calculated 'γ' value	'P' Value	Remarks
Digital literacy Vs Learning Skills	298	0.207	0.000	S

(At 5% level of significance the table value of ' γ ' is 0.073)

It is inferred from the above table that there is a significant relationship between digital literacy and Learning Skills among Rural School Students. The calculated values are greater than the table value. Thus Null hypothesis is rejected.

4.5 REGRESSION

H₀18: There is no significant influence of digital literacy and learning skill among rural students.

Table 4.4.1 (a)

Influence of Digital literacy and learning skill among rural students – Model Summary

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	0.207	0.043	0.040		6.894

Table 4.4.1 (b)

Influence of Digital literacy and learning skill among rural students - ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	1987.357	1	1987.357		
1	Residual	44456.839	298	149.184	13.322	0.000
	Total	46444.197	299			

Table 4.4.1 (c)

Influence of Digital literacy and learning skill among rural students - Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	Constant	105.930	5.887		17.993	0.000
	Learning skill	0.366	0.100	0.207	3.650	0.000

It is inferred from the above table 4.4.1 (a) that adjusted R square 0.043 indicates that 4% of the variance could be predicted that learning skill and digital literacy.

It is inferred from the above table 4.4.1 (a) that the multiple correlation co-efficient (0.207) shows that there is a high correlation among learning skill and digital literacy.

It is inferred from the above table 4.4.1 (b) that the significance value 0.000 for ANOVA indicates that learning skill among rural students differ in their perceptions on digital literacy.

It is inferred from the above table 4.4.1 (c) that the digital literacy also did significantly predict learning skill (Beta = 0.207, $t(298) = 3.650$)

4.6 CONCLUSION

In conclusion, the analysis of data for research in digital literacy on Learning Skills reveals a multifaceted landscape where technology intertwines with education. The values are calculated and compared with the table values at 5% level of significance. The hypotheses are accepted or rejected depending on the calculated value. Through the investigation, the significant impact digital literacy has on the acquisition and enhancement of essential Learning Skills is illuminated. The findings underscore the imperative for educational institutions and policymakers to prioritize the integration of digital literacy into curricula and instructional methodologies.

CHAPTER V

FINDINGS, INTERPRETATIONS, RECOMMENDATIONS AND SUGGESTIONS

5.1 INTRODUCTION

Data Interpretation is the process of understanding, organising, and interpreting the given data, for making sense of and getting a meaningful conclusion. The basic concept of data interpretation is to review the collected data by means of analytical methods and arrive at relevant conclusions. The well-analysed and well-structured data help the managing board to examine the data before taking action to implement new ideas. It helps in predicting upcoming trends and future competition. This report presents the findings and interpretations gleaned from a comprehensive research endeavour dedicated to exploring the intersection of digital literacy and Learning Skills. Through meticulous data analysis and thoughtful interpretation, this aims to shed light on the intricate dynamics shaping contemporary education in the digital landscape.

5.2 FINDINGS OF THE STUDY

5.2.1 DIGITAL LITERACY

Level of Digital Literacy among Rural School Students:

Level of Digital Literacy among Rural School Students is moderate in the dimensions like Information Processing, Content Creation, Communication, Safety and Problem Solving.

Level of Digital Literacy among Rural School Students with respect to background variables Gender, Medium of Instruction, Type of Family, Fathers' Educational Qualification, Mothers' Educational Qualification, Fathers' Occupation, Mothers' Occupation and Family Monthly Income.

Level of Digital Literacy among Rural School Students is moderate with respect to background variables Gender, Medium of Instruction, Type of Family, Fathers' Educational Qualification, others' Educational Qualification, Fathers' Occupation, Mothers' Occupation and Family Monthly Income.

Difference between Digital Literacy of Rural School Students and its dimensions Information Processing, Content Creation, Communication, Safety and Problem-Solving with reference to Gender shows there is no significant differences between male and female in communication and safety among rural school students. Despite this, there are significant differences between male and female rural school students in the dimensions: information processing, content creation, problem solving, and digital Literacy.

Difference between Digital Literacy of Rural School Students and its dimensions Information Processing, Content Creation, Communication, Safety and Problem-Solving with reference to medium of instruction shows there is no significant differences between English and Tamil

medium rural school students in safety. Despite this, there is significant difference between English and Tamil medium rural school students in the dimensions: information processing, content creation, communication, problem solving, and digital literacy.

Difference between Digital Literacy of Rural School Students and its dimensions Information Processing, Content Creation, Communication, Safety and Problem-Solving with reference to type of family shows there is no significant difference between joint and nuclear family rural school students in information processing, communication, and problem solving. Despite this, there is significant difference between joint and nuclear family rural school students in the dimensions: content creation, safety, and digital literacy.

Association between Fathers' Educational Qualification and Digital Literacy and its dimensions of Rural School Students shows there is no significant association between fathers' educational Qualification and information processing, content creation, and problem solving of Rural School Students. But there is a significant association between fathers' educational Qualification and communication, safety, and digital literacy of Rural School Students.

Association between Mothers' Educational Qualification and Digital Literacy and its dimensions of Rural School Students shows there is no significant association between mothers' educational Qualification and content creation, communication, safety, and digital literacy of Rural School Students. But there is a significant association between mothers' educational Qualification and information processing, and problem solving of Rural School Students.

Association between Fathers' Occupation and Digital Literacy and its dimensions of Rural School Students shows there is no significant association between fathers' occupation and communication, safety, and digital literacy of Rural School Students. But there is a significant association between fathers' occupation and information processing, content creation, and problem solving of Rural School Students.

Association between Mothers' Occupation and Digital Literacy and its dimensions of Rural School Students shows there is no significant association between mothers' occupation and content creation, communication, and digital literacy of Rural School Students. But there is a significant association between mothers' occupation and information processing, safety, and problem solving of Rural School Students.

Association between Family Monthly Income and Digital Literacy and its dimensions of Rural School Students shows there is no significant association between family monthly income and information processing, content creation, and safety of Rural School Students. But there is a significant association between family monthly income and communication, problem solving, and digital literacy of Rural School Students.

5.2.2 LEARNING SKILLS

Level of Learning Skills among rural school students:

Level of Learning Skills among rural school students is Moderate in the dimensions like Reflection, Knowledge and understanding, Skills and strategies, Confidence and independence and Creativity.

Level of Digital Literacy among Rural School Students with respect to background variables Gender, Medium of Instruction, Type of Family, Fathers' Educational Qualification, others' Educational Qualification, Fathers' Occupation, Mothers' Occupation and Family Monthly Income.

Level of Digital Literacy among Rural School Students is moderate with respect to background variables Gender, Medium of Instruction, Type of Family, Fathers' Educational Qualification, others' Educational Qualification, Fathers' Occupation, Mothers' Occupation and Family Monthly Income.

Difference between Learning Skills of Rural School Students and its dimensions Reflection, Knowledge and understanding, Skills and strategies, Confidence and independence and Creativity with reference to Gender shows there is no significant difference in reflection among male and female rural school students. Despite this, there is significant difference between male and female rural school students in the dimensions: knowledge and understanding, skills and strategies, confidence and independence, Creativity, and Learning Skills.

Difference between Learning Skills of Rural School Students and its dimensions Reflection, Knowledge and understanding, Skills and strategies, Confidence and independence and Creativity with reference to medium of instruction shows there is no significant difference in confidence and independence among English medium and Tamil medium rural school students. Despite this, there is significant difference between English medium and Tamil medium rural school students in the dimensions: reflection, knowledge and understanding, skills and strategies, creativity, and Learning Skills.

Difference between Learning Skills of Rural School Students and its dimensions Reflection, Knowledge and understanding, Skills and strategies, Confidence and independence and Creativity with reference to type of family shows there is no significant difference in knowledge and understanding, skills and strategies, confidence and independence and creativity among joint and nuclear family rural school students. Despite this, there is significant difference between joint and nuclear family rural school students in reflection.

Association between Fathers' Educational Qualification and Learning Skills and its dimensions of Rural School Students shows there is no significant association between Fathers' Educational

Qualification and reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity and Learning Skills of Rural School Students.

Association between Mothers' Educational Qualification and Learning Skills and its dimensions of Rural School Students shows there is no significant association between Mothers' Educational Qualification and knowledge and understanding, creativity and Learning Skills of Rural School Students. But there is a significant association between Mothers' Educational Qualification and reflection, skills and strategies, and confidence and independence of Rural School Students

Association between Fathers' Occupation and Learning Skills and its dimensions of Rural School Students shows there is no significant association between fathers' occupation and reflection, knowledge and understanding, and Skills and strategies of Rural School Students. But there is a significant association between fathers' occupation and confidence and independence, creativity and Learning Skills of Rural School Students.

Association between Mothers' Occupation and Learning Skills and its dimensions of Rural School Students shows there is no significant association between Mothers' occupation and reflection, knowledge and understanding, Skills and strategies, creativity and Learning Skills of Rural School Students. But there is a significant association between others' occupation and confidence and independence of Rural School Students.

Association between Family Monthly Income and Learning Skills and its dimensions of Rural School Students shows there is significant association between family monthly income and reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity of Rural School Students.

Relationship between Digital Literacy and Learning Skills among Rural School Students shows there is a significant relationship between digital literacy and Learning Skills among Rural School Students.

5.3 INTERPRETATIONS

5.3.1 DIGITAL LITERACY AMONG RURAL SCHOOL STUDENTS

Level of Digital Literacy among Rural School Students

Information Processing:

17.3% of rural school students in the total sample have a low level of information processing skills.62.0% have a moderate level, indicating they are capable of basic information processing tasks but may struggle with more complex tasks.20.7% have a high level of information processing, suggesting proficiency in comprehending and analysing digital information effectively.

Content Creation:

Among the total sample, 31.7% of rural school students have a low level of content creation skills.45.7% have a moderate level, indicating they can create digital content but may need guidance or support.22.7% have a high level of content creation, suggesting proficiency in generating original digital content independently.

Communication:

7.7% of rural school students in the total sample have a low level of communication skills in the digital realm.85.7% have a moderate level, indicating they can effectively communicate through digital channels but may have room for improvement.6.6% have a high level of communication, suggesting proficiency in conveying ideas, information, and opinions using digital platforms.

Safety:

Among the total sample, 24.9% of rural school students have a low level of safety awareness and skills when navigating digital environments.51.7% have a moderate level, indicating they are aware of basic safety measures but may still be vulnerable to online risks.23.4% have a high level of safety, suggesting they possess advanced skills in protecting their privacy and security online.

Problem Solving:

16.3% of rural school students in the total sample have a low level of problem-solving skills in digital contexts.72.0% have a moderate level, indicating they can identify and address digital challenges with some level of success.11.7% have a high level of problem-solving, suggesting proficiency in analysing complex digital problems and finding effective solutions.

Overall Digital Literacy:

Regarding overall digital literacy, 19.0% of rural school students in the total sample have a low level.58.3% have a moderate level, indicating a reasonable level of proficiency across multiple dimensions but with room for improvement.22.6% have a high level of digital literacy, suggesting advanced proficiency in various aspects of digital skills, including information processing, content creation, communication, safety, and problem-solving.

Level of Digital Literacy of Rural School Students regarding the background variables such as Gender, Medium of Instruction, Type of Family, Fathers' Educational Qualification, others' Educational Qualification, Fathers' Occupation, Mothers' Occupation and Family Monthly Income.

Gender:

Female rural school students show higher levels of digital literacy compared to male students. 22.0% of female students have a high level of digital literacy, while only 36.0% of male

students achieve the same level. This suggests that there might be differences in access to digital resources or opportunities for digital skill development between male and female students.

Education Medium:

There are higher levels of digital literacy in students of English medium than Tamil medium students. This indicates that the medium of instruction may have a significant impact on students' digital literacy levels.

Family Type:

Rural students from joint families exhibit slightly higher levels of digital literacy compared to those from nuclear families. This could be due to the potential for greater exposure to digital devices and technology in larger family settings.

Parents' Education Level:

Students whose fathers and mothers have higher levels of education tend to have higher levels of digital literacy. This suggests that parental education level may play a role in facilitating digital skill development among rural students.

Parents' Occupation:

There are variations in digital literacy levels based on both fathers' and mothers' occupations. Students with parents engaged in business or private work tend to have higher levels of digital literacy compared to those whose parents work in daily wage labour.

Family Monthly Income:

Higher family monthly income is associated with higher levels of digital literacy among rural school students. This indicates that economic factors play a significant role in shaping students' access to digital resources and opportunities for skill development.

Difference between Digital Literacy of Rural School Students and its dimensions Information Processing, Content Creation, Communication, Safety and Problem-Solving with reference to Gender

When comparing the average scores of male rural school students (mean=13.07, 12.74, 12.92 & 59.95) and female rural school students (mean=12.01, 11.87, 10.36 & 56.47), the male rural school students outperformed their female counterparts in information processing, content creation, communication, and digital literacy. This may be due to

Societal Expectations and Stereotypes: Societal norms and stereotypes often influence the types of activities and interests encouraged in boys and girls. Historically, boys have been more encouraged to engage with technology and digital devices, leading to differences in exposure and experience with digital tools from a young age. This early exposure can translate into higher proficiency in digital literacy skills among male students.

Gendered Access to Technology: In some communities, access to technology may be unevenly distributed based on gender. Boys may have greater access to computers, smartphones, and other digital devices compared to girls, either due to familial preferences, economic factors, or cultural norms. Unequal access to technology can hinder girls' opportunities to develop digital literacy skills.

Educational Bias and Curriculum Design: Educational materials and curriculum content may inadvertently reinforce gender biases and stereotypes, impacting the acquisition of digital literacy skills. For instance, if technology-related subjects are predominantly presented in a male-centric manner or if female students are less encouraged to participate in technology-related activities, this can contribute to disparities in digital literacy scores.

Socioeconomic Factors: Socioeconomic status can influence access to resources and opportunities that support the development of digital literacy skills. Families with higher incomes may be more likely to afford digital devices, internet access, and supplementary educational resources, giving their children a competitive advantage in acquiring digital skills. Gender disparities in socioeconomic status can exacerbate differences in digital literacy scores between male and female students.

Peer Influence and Cultural Expectations: Peer interactions and cultural expectations within schools and communities can shape students' attitudes and behaviours towards technology. If female students perceive technology-related activities as male-dominated or if they face social pressure to conform to traditional gender roles, they may be less inclined to pursue opportunities to develop digital literacy skills.

Teacher Bias and Support: Teachers play a crucial role in facilitating students' learning experiences, including their development of digital literacy skills. However, unconscious biases or gender stereotypes held by teachers may inadvertently affect their interactions with male and female students, leading to differences in the level of support and encouragement provided to each gender in mastering digital tools and technologies.

Difference between Digital Literacy of Rural School Students and its dimensions Information Processing, Content Creation, Communication, Safety and Problem-Solving with reference to medium of instruction

When comparing the average scores of English medium rural school students (mean=12.84, 12.41, 10.40, 12.91 & 59.23) and Tamil medium rural school students (mean=11.38, 11.90, 10.33, 9.83 & 54.27), the English medium rural school students outperformed their Tamil medium counterparts in information processing, content creation, communication, problem solving and digital literacy. This may be due to:

Language Proficiency: English-medium students may have greater proficiency in the English language, which is often the primary language used in digital content and resources. This proficiency may give them an advantage in understanding and navigating digital information, contributing to higher scores in information processing and content creation compared to Tamil-medium students.

Access to Resources: English-medium schools may have better access to digital resources, including educational materials, software, and online platforms, compared to Tamil-medium schools. This differential access can influence students' exposure to technology and their opportunities to practice digital literacy skills, leading to variations in performance across dimensions such as communication and problem-solving.

Cultural Factors: English-medium education is often associated with a more Westernized or globalized curriculum, which may place greater emphasis on digital literacy skills and technology integration compared to Tamil-medium education. Cultural attitudes towards technology and digital learning may also differ between the two groups, affecting students' motivation and engagement with digital tools.

Pedagogical Approaches: Teaching methods and instructional practices may vary between English and Tamil medium schools, influencing students' learning experiences and skill development. English-medium schools may employ more interactive and technology-driven teaching strategies, whereas Tamil-medium schools may rely more on traditional methods. These differences in pedagogy can impact students' ability to apply digital literacy skills in real-world contexts.

Teacher Training and Support: Teachers' own digital literacy skills and training can influence students' proficiency in digital literacy. English-medium teachers may receive more extensive training in technology integration and digital pedagogy, enabling them to better support students in acquiring digital skills. In contrast, Tamil-medium teachers may face challenges in accessing professional development opportunities related to digital literacy instruction.

Curriculum Content: The curriculum content in English and Tamil medium schools may prioritize different aspects of digital literacy or focus on different types of digital tools and technologies. Variations in curriculum content can shape students' exposure to and mastery of digital literacy skills, leading to disparities in performance across dimensions such as problem-solving and overall digital literacy.

Difference between Digital Literacy of Rural School Students and its dimensions Information Processing, Content Creation, Communication, Safety and Problem-Solving with reference to type of family

When comparing the average scores of joint family rural school students (mean=13.23, 10.98, & 59.73) and nuclear family rural school students (mean=11.93, 10.42, & 57.60), the Joint family rural school students outperformed their nuclear family counterparts in content creation, safety, and digital literacy. This may be due to:

Social Dynamics: Joint family students might have more exposure to diverse social interactions within the family setup, which could enhance their content creation abilities. They may also have a greater sense of safety due to the presence of multiple family members, leading to differences in perceptions compared to nuclear family students.

Resource Allocation: Nuclear family students might have access to more individual resources, such as personal devices or dedicated study spaces, which could affect their digital literacy levels. Joint family students may need to share resources, potentially limiting their access and opportunities for digital learning.

Cultural Influences: Cultural norms within joint families might prioritize certain skills or activities related to content creation, safety, and digital literacy, leading to differences in development between joint and nuclear family students.

Parental Involvement: The level and style of parental involvement may vary between joint and nuclear families. This could impact how much emphasis is placed on certain skills or activities related to technology and safety.

Peer Influence: Peer interactions and support networks within joint families might differ significantly from those in nuclear families. This could influence the development of skills such as content creation and digital literacy.

Community Resources: Joint family students might rely more on community resources for certain activities, potentially affecting their digital literacy and content creation abilities compared to nuclear family students who may have more individualized support.

Educational Environment: Differences in the educational environments between joint and nuclear family students could also play a role. For example, the presence of extended family members in joint family households might create a different learning atmosphere that fosters certain skills over others.

Association between Fathers' Educational Qualification and Digital Literacy and its dimensions of Rural School Students

There is no significant association between fathers' educational Qualification and information processing, content creation, and problem solving of Rural School Students and there is a significant association between fathers' educational Qualification and communication, safety, and digital literacy of Rural School Students. This may be due to:

Access to Resources: Fathers' education levels might influence the availability of resources within the household, such as books, internet access, and educational materials. This access could significantly impact communication skills and digital literacy, as well as contribute to a safer environment for learning.

Role Modelling: Fathers with higher education levels might serve as stronger role models for effective communication and digital literacy within the family. Children may emulate their communication styles and technological behaviors, leading to significant associations between fathers' education and these dimensions.

Fathers' Involvement: Fathers with higher education levels might be more actively involved in their children's education, providing support and guidance in communication strategies, digital literacy, and ensuring a safe learning environment. This increased involvement could lead to significant associations between fathers' education and these dimensions.

Community Influence: Fathers' education levels might also influence the broader community's perception of the importance of communication skills, digital literacy, and safety measures. Communities with more educated fathers may place greater emphasis on these aspects of education, leading to significant associations between fathers' education and these dimensions.

Economic Status: Higher levels of paternal education often correlate with higher socioeconomic status, which can impact access to educational resources, including digital devices and internet connectivity. This access can contribute to enhanced communication skills, digital literacy, and safety awareness among children in rural areas.

Cultural Norms: In some cultures, fathers with higher education levels may prioritize certain aspects of education, such as communication skills and digital literacy, over others. This cultural emphasis could lead to significant associations between fathers' education and these dimensions while not necessarily impacting other areas such as information processing or content creation.

Educational Expectations: Fathers with higher education levels may have higher expectations for their children's educational attainment, leading to increased emphasis on communication skills, digital literacy, and safety measures. This emphasis could result in significant associations between fathers' education and these dimensions.

Association between Mothers' Educational Qualification and Digital Literacy and its dimensions of Rural School Students

There is a significant association between mothers' educational Qualification and information processing, and problem solving of Rural School Students and there is no significant association between mothers' educational Qualification and content creation, communication, safety, and digital literacy of Rural School Students This may be due to:

Gender Roles and Expectations: In some cultures or households, there may be traditional gender roles that dictate the responsibilities and expectations placed on mothers regarding their children's education. Mothers may be more commonly associated with nurturing and emotional support rather than technical or digital skills development, which could explain the lack of significant associations in content creation, communication, safety, and digital literacy.

Educational Priorities: Mothers with higher levels of education may prioritize certain aspects of their children's education, such as information processing and problem-solving skills, over others. They may focus more on academic achievement and cognitive development, leading to significant associations in these dimensions.

Mothers' Involvement: Mothers with higher education levels may be more actively involved in their children's academic development, which could impact information processing and problem-solving abilities. They may provide additional support, resources, and guidance in these areas, leading to significant associations.

Cultural Norms: Cultural expectations and norms regarding mothers' roles in education may vary, influencing the emphasis placed on different skills and dimensions. In some cultures, mothers may be expected to support their children academically but not necessarily in areas related to content creation, communication, safety, or digital literacy.

Resource Access: Mothers' education levels may not directly correlate with access to resources such as digital devices, internet connectivity, or educational materials in some households or communities. Without adequate resources, significant associations between mothers' education and dimensions like digital literacy or content creation may not emerge.

Role Modelling: Mothers with higher education levels may serve as role models for academic achievement and problem-solving skills, influencing their children's cognitive development. This role modelling may lead to significant associations between mothers' education and information processing and problem-solving abilities.

Community Influence: The broader community's expectations and support for mothers' involvement in education may vary, affecting the degree to which mothers' education levels impact

different dimensions. In communities where mothers are highly valued as educators, there may be stronger associations between mothers' education and various dimensions of student performance.

Association between Fathers' Occupation and Digital Literacy and its dimensions of Rural School Students

There is no significant association between fathers' occupation and communication, safety, and digital literacy of Rural School Students. But there is a significant association between fathers' occupation and information processing, content creation, and problem solving of Rural School Students. This may be due to:

Occupational Influence on Cognitive Skills: Fathers' occupations may directly influence their children's cognitive skills, such as information processing, content creation, and problem-solving abilities. For example, fathers in occupations that require analytical thinking or creativity may impart these skills to their children through direct or indirect means, leading to significant associations in these dimensions.

Role Modelling and Mentorship: Fathers' occupations may serve as role models for their children, influencing their attitudes, behaviours, and skills related to information processing, content creation, and problem-solving. Children may observe and learn problem-solving strategies or creative thinking approaches from their fathers, contributing to significant associations in these dimensions.

Access to Resources and Opportunities: Fathers' occupations may impact the resources and opportunities available to their children, which could affect their cognitive development. For example, fathers in occupations with higher incomes may provide better access to educational materials, technology, and extracurricular activities that enhance information processing, content creation, and problem-solving skills.

Economic Stability and Stress Levels: Fathers' occupations may impact the economic stability and stress levels within the household, which could indirectly influence their children's cognitive skills. Economic stability may provide a conducive environment for learning and skill development, whereas high levels of stress may detract from cognitive functioning. These factors could contribute to significant associations in information processing, content creation, and problem-solving.

Occupational Culture and Values: The culture and values associated with fathers' occupations may shape their children's attitudes and skills in certain areas. For example, fathers in technical or creative professions may prioritize problem-solving and content creation skills, leading to significant associations in these dimensions.

Community Influence: The broader community's perceptions and expectations regarding fathers' occupations may also play a role. Communities that highly value certain occupations may provide additional support or resources for children of fathers in those occupations, contributing to significant associations in specific dimensions.

Association between Mothers' Occupation and Digital Literacy and its dimensions of Rural School Students

there is no significant association between mothers' occupation and content creation, communication, and digital literacy of Rural School Students. But there is a significant association between mothers' occupation and information processing, safety, and problem solving of Rural School Students. This may be due to:

Occupational Influence on Cognitive Skills: Mothers' occupations may directly impact their children's cognitive skills, such as information processing, safety awareness, and problem-solving abilities. For example, mothers in professions that require critical thinking or attention to detail may impart these skills to their children through direct or indirect means, leading to significant associations in these dimensions.

Safety and Occupational Hazards: Mothers' occupations may influence their awareness and prioritization of safety measures, which could impact their children's safety awareness. Mothers working in occupations with inherent risks or safety protocols may emphasize safety practices within the household, leading to significant associations in this dimension.

Mothers' Involvement: Mothers' occupations may influence their levels of involvement in their children's education and skill development. Those in occupations with more flexible schedules or less demanding workloads may have more time and energy to dedicate to supporting their children's cognitive development, leading to significant associations in certain dimensions.

Economic Stability and Stress Levels: Mothers' occupations may impact the economic stability and stress levels within the household, which could indirectly influence their children's cognitive skills. Economic stability may provide a conducive environment for learning and skill development, whereas high levels of stress may detract from cognitive functioning. These factors could contribute to significant associations in information processing, safety awareness, and problem-solving.

Occupational Culture and Values: The culture and values associated with mothers' occupations may shape their children's attitudes and skills in certain areas. For example, mothers in healthcare professions may prioritize safety and problem-solving skills, leading to significant associations in these dimensions.

Role Modelling and Mentorship: Mothers' occupations may serve as role models for their children, influencing their attitudes, behaviours, and skills related to information processing, safety, and problem-solving. Children may observe and learn problem-solving strategies or safety practices from their mothers, contributing to significant associations in these dimensions.

Community Influence: The broader community's perceptions and expectations regarding mothers' occupations may also play a role. Communities that highly value certain occupations may provide additional support or resources for children of mothers in those occupations, contributing to significant associations in specific dimensions.

Association between Family Monthly Income and Digital Literacy and its dimensions of Rural School Students.

There is no significant association between family monthly income and information processing, content creation, and safety of Rural School Students. But there is a significant association between family monthly income and communication, problem solving, and digital literacy of Rural School Students. This may be due to:

Access to Educational Resources: Higher family monthly income may provide greater access to educational resources such as books, tutoring services, and extracurricular activities that promote communication skills, problem-solving abilities, and digital literacy. Children from higher-income families may have more opportunities to engage in activities that enhance these skills, leading to significant associations.

Technological Access and Exposure: Families with higher monthly incomes may be able to afford better technology and internet access, facilitating digital literacy development among their children. This increased exposure to technology may contribute to significant associations between family monthly income and digital literacy skills.

Quality of Education: Higher family monthly income may enable parents to enroll their children in schools with better educational resources, qualified teachers, and smaller class sizes, which can positively impact communication skills and problem-solving abilities. Additionally, schools in higher-income areas may prioritize digital literacy education, leading to significant associations in this dimension.

Parental Involvement: Higher family monthly income may afford parents more time and resources to invest in their children's education, including providing educational support and engaging in activities that foster communication and problem-solving skills. This increased parental involvement may contribute to significant associations between family monthly income and these dimensions.

Access to Enrichment Opportunities: Families with higher monthly incomes may be able to afford enrichment opportunities such as summer camps, workshops, and educational travel experiences, which can further develop communication, problem-solving and digital literacy skills. This exposure to diverse learning environments may lead to significant associations with family monthly income.

Health and Nutrition: Higher family monthly income may also be associated with better overall health and nutrition, which can positively impact cognitive functioning and problem-solving abilities. Children from families with higher incomes may have fewer health-related barriers to learning, contributing to significant associations in these dimensions.

Community Resources and Support: Higher-income communities may offer additional resources and support systems for children's education, including afterschool programs, libraries, and community centres focused on developing communication, problem-solving, and digital literacy skills. This community support may lead to significant associations with family monthly income.

5.3.2 LEARNING SKILLS AMONG RURAL SCHOOL STUDENTS

Level of Learning Skills among Rural School Students

Reflection: The majority of the sample (67.3%) demonstrates a moderate level of reflection, while 16.3% exhibit both low and high levels of reflection. This suggests that a significant portion of the sample engages in reflecting on their learning experiences to a moderate extent.

Knowledge and Understanding: A similar pattern is observed for knowledge and understanding, with the majority (61.7%) showing a moderate level, and 24.0% demonstrating a high level. This indicates that a considerable proportion of the sample possesses a satisfactory level of comprehension and retention of information.

Skills and Strategies: For skills and strategies, the distribution is more evenly spread across the low, moderate, and high levels. However, a notable percentage (64.3%) falls within the moderate range, indicating that many individuals possess a moderate level of academic skills and learning strategies.

Confidence and Independence: A significant proportion (51.3%) exhibits a moderate level of confidence and independence, with a smaller percentage demonstrating low (32.7%) or high (16.0%) levels. This suggests that while a substantial portion of the sample possesses a moderate level of self-assurance and autonomy in learning, there is variability in confidence levels among individuals.

Creativity: The distribution for creativity shows a more balanced spread across the low, moderate, and high levels, with a slightly higher percentage (53.3%) falling within the moderate range. This

indicates that a considerable portion of the sample demonstrates moderate levels of creativity in learning activities.

Learning Skills: Similarly, the distribution of Learning Skills also demonstrates a balance across the low, moderate, and high levels, with the majority (54.7%) falling within the moderate range. This suggests that a significant proportion of the sample possesses moderate levels of overall Learning Skills.

Level of Learning Skills of Rural School Students regarding the background variables Gender, Medium of Instruction, Type of Family, Fathers' Educational Qualification, others' Educational Qualification, Fathers' Occupation, Mothers' Occupation and Family Monthly Income.

Gender: Male rural students exhibit a higher prevalence of moderate and high levels of Learning Skills compared to female students. This suggests a potential gender disparity in Learning Skills development, with males more likely to demonstrate proficiency in this area.

Medium of Instruction: Rural students studying in English medium schools tend to have higher proportions of moderate and high levels of Learning Skills compared to those in Tamil medium schools. This could be attributed to differences in educational resources, teaching methodologies, and language proficiency.

Family Structure: Students from joint families show slightly higher proportions of moderate and high levels of Learning Skills compared to those from nuclear families. The support network and resources available within joint family structures may contribute to this difference.

Parental Education: Both fathers' and mothers' levels of education appear to have an influence on their children's Learning Skills levels. Students with parents who studied in college demonstrate higher proportions of moderate and high levels of Learning Skills compared to those with parents who studied only up to school level or have no high level of Learning Skills.

Parental Occupation: Parental occupation, particularly in terms of stability and type of employment, shows varying associations with Learning Skills levels. Students whose fathers and mothers are employed in government jobs tend to have higher proportions of moderate and high levels of Learning Skills compared to those with parents engaged in daily wage labour or private work.

Family Monthly Income: Higher family monthly income is associated with higher proportions of moderate and high levels of Learning Skills among rural students. This suggests that economic stability and access to resources play a crucial role in facilitating Learning Skills development.

Difference between Learning Skills of Rural School Students and its dimensions: Reflection, Knowledge and understanding, Skills and strategies, Confidence and independence and Creativity with reference to Gender

When comparing the average scores of male rural school students (mean=15.23, 16.52, 17.09, 14.64, & 80.45) and female rural school students (mean=17.10, 18.50, 19.47, 16.11 & 88.75), the female rural school students outperformed their male counterparts in knowledge and understanding, skills and strategies, confidence and independence, Creativity, and Learning Skills. This may be due to:

Socialization and Gender Norms: Gender roles and societal expectations may influence the development of cognitive skills differently among male and female rural school students. For example, traditional gender norms may encourage boys to focus more on analytical thinking and problem-solving, while girls may be encouraged to prioritize nurturing and interpersonal skills, leading to differences in dimensions such as knowledge and understanding, skills and strategies, confidence and independence, creativity, and Learning Skills.

Educational Environment: The educational environment within rural schools may inadvertently reinforce gender stereotypes or provide different opportunities for male and female students to develop certain skills. For instance, classroom activities, teaching methods, and extracurricular opportunities may vary based on gender, impacting students' development in different dimensions.

Teacher Bias and Expectations: Teacher bias and expectations regarding students' abilities may contribute to differences in skill development between male and female students. Teachers may inadvertently provide more support or encouragement to students of a particular gender, influencing their progress in various dimensions.

Peer Influence: Peer interactions and dynamics within rural schools may also play a role in shaping students' cognitive skills. Male and female students may engage in different types of social interactions or participate in gender-segregated activities, leading to differences in skill development.

Parental Expectations and Support: Parental expectations and support for education may vary based on gender, affecting students' motivation and opportunities for skill development. For example, parents may encourage boys to excel in academic subjects while placing more emphasis on girls' domestic responsibilities, influencing their development in different dimensions.

Cultural Factors: Cultural beliefs and values regarding gender roles and education may influence the distribution of cognitive skills among male and female rural school students. Cultural expectations may prioritize certain skills or behaviours based on gender, leading to differences in skill development.

Difference between Learning Skills of Rural School Students and its dimensions: Reflection, Knowledge and understanding, Skills and strategies, Confidence and independence and Creativity with reference to medium of instruction

When comparing the average scores of English medium rural school students (mean=17.00, 16.02, 17.33, 15.09 & 83.64) and Tamil medium rural school students (mean=18.33, 16.72, 18.17, 16.45 & 88.22), the Tamil medium rural school students outperformed their English medium counterparts in reflection, knowledge and understanding, skills and strategies, creativity, and Learning Skills. This may be due to:

Language Proficiency and Instruction Medium: The medium of instruction plays a crucial role in shaping students' learning experiences and outcomes. In this case, the differences observed between English and Tamil medium students suggest that language proficiency and the instructional approach associated with each medium might influence various dimensions of learning differently. English medium students may have been exposed to different teaching methodologies, resources, or educational materials compared to Tamil medium students, which could impact their development in areas such as reflection, knowledge acquisition, and creativity.

Cultural and Societal Influences: The choice of medium of instruction in rural schools might also reflect broader cultural and societal factors. English medium schools may be perceived as providing better opportunities for advancement or access to higher education, leading to differences in student motivation, aspirations, and parental involvement. These cultural influences could contribute to disparities in learning outcomes across different dimensions.

Resource Allocation and Quality of Education: Disparities in resources and the quality of education between English and Tamil medium schools could also account for the observed differences. English medium schools may receive more funding, better infrastructure, or qualified teachers, leading to enhanced learning opportunities and outcomes. In contrast, Tamil medium schools might face resource constraints, which could limit students' ability to develop certain skills and competencies.

Pedagogical Approaches: The pedagogical approaches and curriculum content in English and Tamil medium schools may vary, influencing the development of different dimensions of learning. English medium schools may emphasize critical thinking, problem-solving, and communication skills, while Tamil medium schools might prioritize rote memorization or subject-specific knowledge. These differences in instructional approaches could contribute to variations in student performance across dimensions such as reflection, knowledge acquisition, and creativity.

Difference between Learning Skills of Rural School Students and its dimensions: Reflection, Knowledge and understanding, Skills and strategies, Confidence and independence and Creativity with reference to type of family

When comparing the average scores of joint family rural school students (mean=18.07) and nuclear family rural school students (mean=16.94), the Joint family rural school students outperformed their nuclear family counterparts in reflection. This may be due to:

Family Structure and Dynamics: The difference in family structure between joint and nuclear families could contribute to variations in students' reflective abilities. In joint families, children may have more opportunities for social interaction and collective decision-making, which can foster critical thinking and self-awareness. In contrast, children from nuclear families might have more independence but fewer opportunities for collaborative reflection and discussion.

Parental Involvement and Support: The level and type of parental involvement and support can significantly impact students' cognitive and socio-emotional development. Joint family structures often entail greater involvement from extended family members, providing additional support systems and diverse perspectives that can enhance students' reflective abilities. In nuclear families, the responsibility for nurturing reflective skills may fall primarily on parents, and the extent of this support can vary.

Communication Patterns: Communication patterns within joint and nuclear families may differ, influencing the development of reflective skills. In joint families, frequent discussions, debates, and sharing of experiences among family members can promote critical thinking and self-reflection. In contrast, communication dynamics in nuclear families might be more focused on immediate family members, potentially limiting exposure to diverse viewpoints and reflective dialogue.

Cultural Norms and Values: Cultural norms and values associated with different family structures could shape the emphasis placed on reflection and introspection. In some cultures, joint family structures may prioritize collective decision-making and consensus-building, fostering a culture of reflection and dialogue. In contrast, nuclear families may prioritize individual autonomy and self-reliance, which could influence the development of reflective skills in different ways.

Association between Fathers' Educational Qualification and Learning Skills and its dimensions of Rural School Students

There is no significant association between Fathers' Educational Qualification and reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity and Learning Skills of Rural School Students. This may be due to:

Complex Pathways of Influence: The relationship between Fathers' education and children's learning outcomes is complex and multifaceted. Fathers' education can influence students' Learning Skills through various pathways, including direct academic support, role modelling, expectations, and attitudes towards education. These pathways may interact with other factors in intricate ways, making it challenging to isolate the specific influence of fathers' education on each dimension of Learning Skills.

Cultural and Contextual Factors: The influence of fathers' education on children's learning outcomes can vary depending on cultural norms, societal expectations, and contextual factors specific to rural communities. Cultural attitudes towards education, gender roles, and the perceived importance of academic achievement may shape the ways in which fathers' education impacts their children's Learning Skills within rural contexts.

Association between Mothers' Educational Qualification and Learning Skills and its dimensions of Rural School Students

There is no significant association between Mothers' Educational Qualification and knowledge and understanding, creativity and Learning Skills of Rural School Students. But there is a significant association between Mothers' Educational Qualification and reflection, skills and strategies, and confidence and independence of Rural School Students. This may be due to:

Differential Impact of Parental Education: Mothers' education may have varying effects on different dimensions of children's Learning Skills. While some aspects of learning, such as reflection, skills and strategies, and confidence and independence, may be more directly influenced by maternal education, other dimensions like knowledge and understanding, creativity, and Learning Skills may be shaped by a broader range of factors, including paternal education, teaching quality, peer interactions, and environmental influences.

Maternal Role in Cognitive and Socio-emotional Development: Mothers often play a significant role in fostering children's cognitive and socio-emotional development, particularly in domains related to reflection, skills development, and confidence-building. Maternal education may contribute to the development of critical thinking skills, problem-solving abilities, and self-efficacy beliefs through direct involvement in children's learning activities, providing intellectual stimulation, and serving as role models for academic and personal achievement.

Differential Influence of mothers' Roles: Mothers may contribute differently to children's learning and development due to variations in their roles, responsibilities, and interactions within the family. Mothers may be more directly involved in facilitating reflective thinking, teaching study skills, and nurturing self-confidence and independence, this could lead to variations in the associations between mothers' education and specific dimensions of Learning Skills.

Socio-cultural Factors: Socio-cultural norms and expectations regarding mothers' roles and responsibilities may influence the ways in which maternal education impacts children's learning outcomes. In some contexts, mothers may be expected to prioritize educational support and emotional nurturing, leading to stronger associations between maternal education and socio-emotional dimensions of learning. Conversely, the influence of maternal education on cognitive dimensions of learning may be mediated by broader societal factors, including access to resources, gender dynamics, and cultural attitudes towards education.

Association between Fathers' Occupation and Learning Skills and its dimensions of Rural School Students

There is no significant association between fathers' occupation and reflection, knowledge and understanding, and Skills and strategies of Rural School Students. The calculated values are less than the table value. Hence the Null hypothesis is accepted. But there is a significant association between fathers' occupation and confidence and independence, creativity and Learning Skills of Rural School Students. This may be due to:

Direct and Indirect Influence of Fathers' Occupation: Fathers' occupations may directly influence certain aspects of their children's Learning Skills, such as confidence and independence, creativity, and Learning Skills. For example, fathers in occupations requiring high levels of autonomy, problem-solving, or creativity may serve as role models or provide direct guidance and support in developing these skills. In contrast, the influence of fathers' occupation on dimensions like reflection, knowledge acquisition, and study strategies may be more indirect and mediated by other factors.

Variability in Occupational Characteristics: The characteristics of fathers' occupations can vary widely in terms of job demands, skill requirements, and workplace environments. Occupations that foster autonomy, self-confidence, and creativity may be associated with corresponding strengths in these dimensions among their children. Conversely, occupations that do not directly involve tasks requiring reflection or knowledge acquisition may show weaker associations with these dimensions of Learning Skills.

Fathers' Role Modelling and Expectations: Fathers' occupations may shape children's perceptions of work, career aspirations, and attitudes towards learning and personal development. Fathers in occupations requiring high levels of self-confidence, independence, and creativity may serve as positive role models, encouraging their children to develop similar attributes. Moreover, fathers' expectations regarding education and career goals may influence children's motivation and self-beliefs, particularly in domains related to confidence and independence.

Socio-economic Status and Family Environment: Fathers' occupations are often closely linked to socio-economic status and family resources, which can in turn impact children's learning environments and opportunities. Occupational prestige, income level, and access to educational resources may indirectly influence children's confidence, creativity, and Learning Skills through factors such as Fathers' involvement, educational support, and exposure to diverse learning experiences. However, the association between fathers' occupation and dimensions like reflection and knowledge acquisition may be less direct and more dependent on other family and environmental factors.

Contextual Factors: Variations in occupational diversity, educational opportunities, community resources, and cultural norms within rural settings could influence the strength and direction of the associations between fathers' occupation and different dimensions of Learning Skills among rural students.

Association between Mothers' Occupation and Learning Skills and its dimensions of Rural School Students

There is no significant association between Mothers' occupation and reflection, knowledge and understanding, Skills and strategies, creativity and Learning Skills of Rural School Students. But there is a significant association between others' occupation and confidence and independence of Rural School Students. This may be due to:

Direct Influence of Mothers' Occupation on Confidence and Independence: Mothers' occupations may directly influence certain aspects of their children's Learning Skills, particularly confidence and independence. Mothers in occupations requiring leadership, decision-making, and autonomy may serve as role models for assertiveness, self-reliance, and self-confidence. Children of such mothers may be more likely to develop similar attributes, which could manifest in higher levels of confidence and independence.

Role Modelling and Expectations: Mothers' occupations can shape children's perceptions of gender roles, work-life balance, and career aspirations. Children of mothers in professional or managerial roles may internalize positive attitudes towards education, career advancement, and personal development. These attitudes and expectations may contribute to higher levels of confidence and independence among their children, even if there is no direct influence on other dimensions of Learning Skills.

Socio-economic Status and Family Environment: Mothers' occupations are often linked to socio-economic status and family resources, which can influence children's learning environments and opportunities. Occupations with higher earning potential may afford families greater access to educational resources, extracurricular activities, and enrichment opportunities, which could

indirectly impact children's confidence and independence. However, the association between mothers' occupation and dimensions like reflection, knowledge acquisition, and creativity may be less direct and more dependent on other family and environmental factors.

Association between Family Monthly Income and Learning Skills and its dimensions of Rural School Students

There is significant association between family monthly income and reflection, knowledge and understanding, skills and strategies, confidence and independence and creativity of Rural School Students. This may be due to:

Access to Resources: Higher family monthly income often provides rural students with increased access to educational resources, such as textbooks, technology, tutoring services, and extracurricular activities. These resources can support students' development across multiple dimensions of learning, including reflective thinking, knowledge acquisition, problem-solving skills, self-confidence, and creativity.

Quality of Education: Family income can influence the quality of education that rural students receive. Schools in higher-income areas may have better facilities, more qualified teachers, smaller class sizes, and a wider range of educational programs and opportunities. As a result, students from higher-income families may benefit from a more supportive learning environment that fosters their cognitive, socio-emotional, and creative development.

Parental Involvement and Support: Higher family income is often associated with greater parental involvement and support in children's education. Parents with higher incomes may have more time, resources, and knowledge to actively engage in their children's learning, provide academic guidance, and instil positive attitudes towards education. This parental involvement can contribute to students' confidence, independence, and overall learning outcomes.

Access to Enrichment Activities: Higher family income can afford rural students opportunities for enrichment activities outside of the classroom, such as educational trips, cultural experiences, hobbies, and sports. Engagement in such activities can enhance students' critical thinking skills, creativity, and overall learning capacity by exposing them to diverse learning opportunities and fostering their curiosity and exploration.

Psychosocial Factors: Family income can influence psychosocial factors that are important for learning, such as students' sense of security, self-esteem, and motivation. Higher family income may alleviate financial stressors and provide a more stable home environment, which can positively impact students' confidence, independence, and willingness to take intellectual risks and pursue creative endeavours.

Community and Peer Influences: Family income can also shape students' social networks and peer influences. Higher-income families may reside in neighbourhoods with greater social capital, access to educational programs, and positive peer role models. Interactions with peers who value learning and achievement can contribute to students' motivation, self-perception, and development of Learning Skills.

Relationship between Digital Literacy and Learning Skills among Rural School Students

There is a significant relationship between digital literacy and Learning Skills among Rural School Students. This may be due to:

Access to Information and Resources: Digital literacy equips rural students with the ability to access vast amounts of information and educational resources available online. With digital literacy skills, students can leverage digital platforms, databases, and educational websites to supplement their learning, access multimedia resources, and engage with interactive learning materials that cater to different learning styles and preferences.

Enhanced Communication and Collaboration: Digital literacy facilitates communication and collaboration among rural students, enabling them to connect with peers, teachers, and experts beyond their immediate geographical location. Through digital platforms such as email, messaging apps, and online forums, students can engage in collaborative learning, exchange ideas, seek feedback, and participate in virtual study groups or project-based learning activities, thereby enhancing their interpersonal skills, teamwork, and ability to learn from diverse perspectives.

Digital Learning Tools and Technologies: Digital literacy enables rural students to effectively utilize digital learning tools and technologies to enhance their learning experience. These may include educational software, learning management systems, virtual simulations, and multimedia presentations that provide interactive and engaging learning experiences. By mastering digital tools and technologies, students can develop critical thinking skills, problem-solving abilities, and adaptability to new learning environments and modalities.

Information Literacy and Critical Thinking: Digital literacy encompasses information literacy skills, such as evaluating the credibility, relevance, and reliability of online sources. By honing their information literacy skills, rural students can discern fact from fiction, critically evaluate information, and make informed decisions. These critical thinking skills are essential for analyzing complex issues, synthesizing diverse perspectives, and developing a deeper understanding of subject matter across various learning domains.

Preparation for 21st Century Skills: In today's increasingly digital and interconnected world, digital literacy is recognized as a fundamental skill set for success in education, employment, and civic engagement. By cultivating digital literacy skills, rural students are better prepared to navigate the

demands of the 21st-century workforce, which increasingly relies on technology for communication, collaboration, problem-solving, and innovation. Digital literacy thus serves as a foundational skill that underpins the development of other Learning Skills essential for academic and professional success.

Overall, the significant relationship between digital literacy and Learning Skills among rural students gives the importance of integrating digital technologies into education to empower students with the knowledge, skills, and competencies needed to thrive in a rapidly evolving digital landscape. By fostering digital literacy, educators can enhance students' access to educational opportunities, promote collaboration and critical thinking, and prepare them for success in the digital age.

Influence of digital literacy and learning skill among rural students

The adjusted R square value of 0.043 suggests that digital literacy accounts for a statistically significant portion of the variability in learning skills among rural school students.

The multiple correlation coefficient of 0.207 suggests a moderate positive correlation between learning skills and digital literacy. This indicates that as digital literacy increases, there is a tendency for learning skills to also increase, and vice versa. However, the strength of this relationship is not very strong.

The significance value of 0.000 for the ANOVA test indicates that there is a statistically significant difference in learning skills among rural students based on their perceptions of digital literacy. This suggests that digital literacy plays a role in shaping the learning skills of rural students and that there are meaningful differences in learning skills among students with varying levels of digital literacy.

The significance value associated with the beta coefficient for digital literacy (Beta = 0.207, $t(298) = 3.650$) indicates that digital literacy significantly predicts learning skills among rural school students. This suggests that students with higher levels of digital literacy tend to have better learning skills compared to those with lower levels of digital literacy. The beta coefficient of 0.207 indicates that for every one-unit increase in digital literacy, there is a corresponding increase of 0.207 units in learning skills, holding other variables constant. The t-value of 3.650 indicates that this relationship is statistically significant at the chosen level of significance (typically $p < 0.05$), further supporting the assertion that digital literacy has a meaningful impact on learning skills among rural students.

Overall, the results suggest that digital literacy is an important factor influencing learning skills among rural school students. The findings underscore the significance of digital literacy in shaping educational outcomes and highlight the need for interventions aimed at

enhancing digital literacy skills among rural students to improve their learning skills and academic success.

In summary, digital literacy has a profound impact on Learning Skills, encompassing access to information, critical thinking, collaboration, creativity, adaptability, problem-solving, and information management. It enables individuals to navigate the vast digital landscape effectively, evaluate online information critically, collaborate with others globally, express creativity, adapt to new technologies, solve complex problems, and manage information efficiently.

5.4 EDUCATIONAL IMPLICATIONS

The educational implications of digital literacy on learning skills are profound and multifaceted, touching upon various aspects of teaching, learning, and educational policy. Some of the key implications include:

1. **Curriculum Integration:** Digital literacy skills must be integrated seamlessly into educational curricula across all levels, from primary education to higher education. This integration ensures that students develop essential digital competencies alongside traditional academic skills, preparing them for success in an increasingly digital world.
2. **Pedagogical Transformation:** Educators must adopt innovative pedagogical approaches that leverage digital tools and resources to enhance learning experiences. This may involve incorporating interactive multimedia materials, collaborative online platforms, and project-based learning activities that promote digital literacy while fostering critical thinking, problem-solving, and creativity.
3. **Digital Citizenship Education:** Alongside technical skills, digital literacy education should emphasize the development of responsible digital citizenship behaviors. Students need to understand concepts such as online safety, privacy protection, digital ethics, and respectful online communication to navigate the digital landscape responsibly and ethically.
4. **Equity and Access:** Efforts to promote digital literacy must address disparities in access to technology and digital resources among students. Schools and educational institutions should strive to provide equitable access to devices, internet connectivity, and digital learning materials to ensure that all students have the opportunity to develop essential digital skills regardless of socio-economic background.
5. **Lifelong Learning:** Digital literacy is not a static skill set but rather a dynamic and evolving competency that requires continuous learning and adaptation. Educational programs should emphasize the importance of lifelong learning and empower students with the skills and resources to navigate and adapt to emerging technologies throughout their lives.

6. **Teacher Professional Development:** Educators play a crucial role in fostering digital literacy skills among students. Therefore, professional development programs should prioritize training teachers in effective use of digital tools, strategies for integrating technology into instruction, and methods for assessing digital literacy competencies.
7. **Assessment and Evaluation:** Traditional forms of assessment may not adequately measure digital literacy skills. Therefore, educators should explore innovative assessment methods, such as performance-based tasks, authentic projects, and digital portfolios, that authentically evaluate students' digital literacy competencies.

By addressing these educational implications, schools and educational institutions can better equip students with the digital literacy skills needed to thrive in the digital age and become informed, responsible, and empowered learners and citizens.

5.5 RECOMMENDATIONS

Improving the impact of digital literacy on the learning skills of rural school students requires various approaches that address the unique challenges and opportunities present in rural communities. Some recommendations are:

1. **Infrastructure Development:** Invest in improving infrastructure to ensure reliable access to digital technology and high-speed internet in rural areas. This may involve expanding broadband coverage, establishing community Wi-Fi hotspots, and providing schools with updated technology equipment.
2. **Digital Literacy Training for Educators:** Provide comprehensive training and professional development opportunities for teachers in rural schools to enhance their digital literacy skills. Teachers should be equipped with the knowledge and skills to effectively integrate technology into their teaching practices and support students in developing digital literacy competencies.
3. **Accessible Digital Learning Resources:** Develop and curate digital learning resources that are accessible, culturally relevant, and tailored to the needs of rural students. This may include online educational platforms, digital libraries, and educational apps that supplement classroom instruction and provide opportunities for self-directed learning.
4. **Partnerships and Collaboration:** Foster partnerships between schools, community organizations, and local businesses to leverage resources and expertise in promoting digital literacy. Collaborative efforts can lead to the creation of after-school programs, community workshops, and mentorship opportunities that support students in developing digital skills outside of the classroom.

5. **Mobile Learning Initiatives:** Embrace mobile learning initiatives that leverage smart phones and tablets as learning tools, especially in areas where access to traditional desktop computers or laptops may be limited. Mobile learning platforms can provide flexible and convenient access to educational content, allowing students to learn anytime, anywhere.
6. **Project-Based Learning:** Implement project-based learning approaches that incorporate digital technology and real-world problem-solving activities. Encourage students to collaborate on interdisciplinary projects that require research, critical thinking, and digital communication skills, fostering the development of digital literacy in a meaningful context.
7. **Community Engagement and Empowerment:** Engage parents, caregivers, and community members in supporting digital literacy initiatives for rural students. Empower community stakeholders to take an active role in advocating for digital infrastructure improvements, volunteering as technology mentors, and providing support for students' digital learning endeavours.

By implementing these recommendations, rural schools can enhance the impact of digital literacy on the learning skills of their students, ensuring that they are equipped with the essential competencies needed to succeed in the digital age and beyond.

5.6 SUGGESTIONS FOR FURTHER STUDY

Longitudinal Studies: Conduct longitudinal studies to track the development of digital literacy skills among rural students over time. By examining changes in digital proficiency, learning outcomes, and academic achievement, researchers can gain insights into the long-term effects of digital literacy interventions on rural education.

Qualitative Research: Utilize qualitative research methods such as interviews, focus groups, and case studies to explore the lived experiences of rural students regarding digital literacy. Investigate factors influencing digital skill acquisition, barriers to access, and the socio-cultural context shaping students' digital learning experiences.

Comparative Studies: Compare the impact of different digital literacy interventions on learning skills across diverse rural communities. Analyse variations in program effectiveness, implementation strategies, and contextual factors to identify best practices for promoting digital literacy in rural schools.

Teacher Training and Professional Development: Investigate the role of teacher training and professional development programs in fostering digital literacy among rural educators. Explore effective pedagogical approaches, instructional strategies, and technology integration models that support educators in equipping rural students with essential digital skills.

Parental Involvement and Community Engagement: Examine the influence of parental involvement and community engagement initiatives on students' digital literacy development. Investigate the role of family dynamics, community resources, and support networks in enhancing digital learning opportunities for rural students outside of school settings.

Digital Equity and Access: Explore issues of digital equity and access in rural education, including disparities in internet connectivity, availability of digital devices, and affordability of technology resources. Identify barriers hindering access to digital learning opportunities and develop strategies to promote equitable access for all rural students.

Cross-disciplinary Research: Foster collaboration between education researchers and experts from fields such as information technology, digital media studies, and cognitive psychology to gain a comprehensive understanding of the intersection between digital literacy and learning skills in rural contexts. Explore interdisciplinary perspectives on the cognitive, social, and cultural dimensions of digital learning. By pursuing further study in these areas, researchers can advance our understanding of how digital literacy impacts learning skills among rural school students and contribute to the development of effective interventions that promote educational equity and excellence in rural education.

5.7 IMPORTANCE OF CONTINUED EFFORTS IN PROMOTING DIGITAL LITERACY:

Continued efforts in promoting digital literacy are crucial to equip individuals with the skills needed to thrive in the digital age. As technology continues to evolve rapidly, digital literacy ensures that individuals can effectively leverage digital tools and platforms for learning, work, and daily life. By fostering digital literacy, we empower individuals to access opportunities, participate in the digital economy, and engage meaningfully in society. Moreover, promoting digital literacy helps bridge the digital divide, ensuring that all individuals have equal access to digital resources and opportunities.

5.8 FUTURE DIRECTIONS:

Looking ahead, it is essential to prioritize digital literacy initiatives in education, workforce development, and community outreach programs. Schools should integrate digital literacy into their curriculum from an early age, teaching students how to navigate the digital world responsibly and ethically. Additionally, employers should provide training and support to employees to enhance their digital skills, fostering a culture of continuous learning in the workplace. Governments and organizations should invest in digital infrastructure and initiatives to improve digital access and literacy for underserved communities.

Furthermore, collaboration between stakeholders, including educators, policymakers, employers, and community organizations, is key to advancing digital literacy efforts effectively. By working together, we can ensure that individuals have the skills and knowledge they need to succeed in the digital age.

5.9 CONCLUSION

By fostering a digitally literate population, empowering individuals to navigate, comprehend, and contribute meaningfully in an increasingly complex and interconnected world is possible. Digital literacy empowers individuals to adapt to the rapidly evolving technological landscape, equipping them with the agility to leverage emerging tools and platforms to enhance their learning experiences. Whether through multimedia presentations, interactive simulations, or online courses, digital literacy enables learners to explore diverse learning modalities tailored to their preferences and needs. the cultivation of digital literacy is integral to the development of robust learning skills in today's digital age. By mastering digital tools and resources, individuals not only enhance their ability to acquire knowledge but also cultivate critical thinking, collaboration, and adaptability—the essential skills needed to thrive in an increasingly interconnected and digitized world.

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DIGITAL LITERACY QUESTIONNAIRE AND LEARNING SKILL QUESTIONNAIRE

Thank you for your participation in answering this questionnaire. Your responses will be kept in strict confidence. Please answer all questions as accurately as you can.

இந்தக் கேள்வித்தாளுக்கும் பதிலளிப்பதில் நீங்கள் பங்கேற்பதற்கு நன்றி. உங்கள் பதில்கள் மிகவும் ரகசியமாக வைக்கப்படும். எல்லா கேள்விகளுக்கும் உங்களால் முடிந்தவரை துல்லியமாக பதிலளிக்கவும்.

SECTION - I

For each question, please mark your response with a tick [✓].

ஒவ்வொரு கேள்விக்கும், உங்கள் பதிலை டிக் [✓] மூலம் குறிக்கவும்.

1. Gender /பாலினம்

Male /ஆண் Female/ பெண்

2. Medium of Instruction / பயிற்றுவிக்கும் மொழி

English/ஆங்கிலம் Tamil/தமிழ்

3. . Type of family / குடும்ப வகை

Joint/கூட்டுக் குடும்பம் Nuclear/தனிக்குடும்பம்

4.. Educational qualification of Father / தந்தையின் கல்வித் தகுதி

Illiterate/படிப்பறிவில்லாதவர் School Education/பள்ளிக் கல்வி College Education/கல்லூரிக் கல்வி

5. Educational qualification of Mother / அம்மாவின் கல்வித் தகுதி

Illiterate/ படிப்பறிவில்லாதவர் School Education/பள்ளிக்கல்வி / College Education/கல்லூரிக் கல்வி

6. Occupation of Father / தந்தையின் தொழில்

Daily Wages/தினசரி ஊதியம் Private/தனியார் Government/அரசு

7. Occupation of Mother / தாயின்

Daily Wages/தினசரி ஊதியம் Private/தனியார் Government/அரசு

8. Monthly Income of family / குடும்பத்தின் மாதாந்திர வருமானம்

Below Rs.10000 /ரூ.10000க்கு கீழ் Rs10001 - Rs.20000 / ரூ.10001- ரூ.20000 Above Rs.20000/ரூ.20000க்கு மேல்

SECTION-II

DIGITAL LITERACY QUESTIONNAIRE
எண்ணிம எழுத்தறிவு கேள்வித்தாள்

1. Information processing

தகவல் செயலாக்கம்

Sl.no வ. எண்	Information processing/ தகவல் செயலாக்கம்	Yes/ ஆம்	No/ இல்லை
1.	Do you know the different operating systems? வெவ்வேறு இயக்க முறைமைகள் உங்களுக்குத் தெரியுமா?		
2.	Do you know how to end a computer session? கணினி அமர்வை எப்படி முடிப்பது என்று உங்களுக்குத் தெரியுமா?		
3.	Do you know to use online banking platforms? இணையவழி வங்கி தளங்களைப் பயன்படுத்த உங்களுக்குத் தெரியுமா?		
4.	Do you know to convert file format? கோப்பு வடிவத்தை மாற்ற உங்களுக்குத் தெரியுமா?		
5.	Do you know to access online Government information? இணையவழி அரசாங்க தகவல்களை கையாள உங்களுக்குத் தெரியுமா?		
6.	Do you know to use e Readers and download e Books? மின் வாசிப்புகளைப் பயன்படுத்தவும் மின் புத்தகங்களைப் பதிவிறக்கவும் உங்களுக்குத் தெரியுமா?		
7.	Do you know to access online health and wellness information? இணையவழி உடல்நலம் மற்றும் ஆரோக்கிய தகவல்களை கையாள உங்களுக்குத் தெரியுமா?		
8.	Do you know to use library websites? நூலக இணையதளங்களைப் உங்களுக்கு பயன்படுத்தத் தெரியுமா?		

II. Content creation

உள்ளடக்க உருவாக்கம்

Sl. No வ. எண்	Content creation/ உள்ளடக்க உருவாக்கம்	Yes/ ஆம்	No/ இல்லை
9.	Can you write files on CD, DVD or USB drive? குறுந்தட்டு, மின்னிலக்க பல திற ஆற்றல் வட்டு, அல்லது தகவல் சேமிப்பானில் கோப்புகளை எழுத முடியுமா?		
10.	Can you create and update web pages? இணையப் பக்கங்களை உருவாக்கி புதுப்பிக்க முடியுமா?		
11.	Can you type content in word processor? சொல் செயலியில் உள்ளடக்கத்தை தட்டச்சு செய்ய முடியுமா?		
12.	Can you download and use apps on digital devices? எண்ணிம சாதனங்களில் செயலியை பதிவிறக்கம் செய்து பயன்படுத்த முடியுமா?		
13.	Can you draw graphs using graphics software? வரைகலை மென்பொருளைப் பயன்படுத்தி வரைபடங்களை வரைய முடியுமா?		
14.	Can you organize data in spread sheet? விரிதாளில் தரவை ஒழுங்கமைக்க முடியுமா?		
15.	Can you access Web search engines? இணைய தேடுபொறிகளை கையாள முடியுமா?		
16.	Can you present content through PowerPoint? விளக்கக்காட்சி மூலம் உள்ளடக்கத்தை வழங்க முடியுமா?		

III. Communication

தொடர்பு

SI. No வ. எண்	Communication/தொடர்பு	Yes/ ஆம்	No/ இல்லை
17.	Do you have any online friend you have never met in person? நீங்கள் நேரில் சந்திக்காத இணையவழி நண்பர் யாராவது இருக்கிறார்களா?		
18.	Do you share your personal videos in social media? உங்கள் தனிப்பட்ட வீடியோக்களை சமூக ஊடகங்களில் பகிர்கிறீர்களா?		
19.	Do you use moodle for your Learning? உங்கள் கற்றலுக்கு நீங்கள் கட்டற்ற பாட பயிற்சி மேலாண்மை அமைப்பை பயன்படுத்துகிறீர்களா?		
20.	Do you have account for communication application? தகவல் தொடர்பு விண்ணப்பத்திற்கான கணக்கு உங்களிடம் உள்ளதா?		
21.	Do you have access to Text/voice chatting? உரை / குரல் அரட்டையை கையாள உங்களுக்குத் தெரியுமா?		
22.	Do you play online games? நீங்கள் இணையவழி விளையாட்டுக்களை விளையாடுகிறீர்களா?		
23.	Do you participate in video conferences? நீங்கள் காணொளி கருத்தாடல்களில் பங்கேற்கிறீர்களா?		

IV. Safety

பாதுகாப்பு

SI. No வ. எண்	Safety/பாதுகாப்பு	Yes/ ஆம்	No/ இல்லை
24	Can you scan disks for viruses? நச்சு நிரல் உடைய வட்டுகளை வருடுதல் செய்ய முடியுமா?		
25	Do you reply for junk emails or unsolicited messages sent over the Internet? இணையத்தில் அனுப்பப்படும் பயன் இல்லாத மின்னஞ்சல்கள் அல்லது கோரப்படாத செய்திகளுக்கு நீங்கள் பதிலளிக்கிறீர்களா?		
26	Are you aware of the fraudulent attempt to acquire sensitive information such as passwords and credit card details in an electronic communication? மின்னணு தகவல் பரிமாற்றத்தில் கடவுச்சொற்கள் மற்றும் வரவு அட்டை விவரங்கள் போன்ற முக்கியமான தகவல்களைப் பெறுவதற்கான மோசடி முயற்சி பற்றி உங்களுக்குத் தெரியுமா?		
27	Do you know to safeguard your computer with username and password? பயனர்பெயர் மற்றும் கடவுச்சொல் மூலம் உங்கள் கணினியைப் பாதுகாக்க உங்களுக்குத் தெரியுமா?		
28	Do you use same password for multiple accounts? பல கணக்குகளுக்கு ஒரே கடவுச்சொல்லைப் பயன்படுத்துகிறீர்களா?		
29	Do you leave the site if you feel uncomfortable with the website? இணையதளம் உங்களுக்கு சங்கடமாக இருந்தால் தளத்தை விட்டு வெளியேறுகிறீர்களா?		
30	Do you reply for unknown persons questions on internet? இணையத்தில் தெரியாத நபர்களின் கேள்விகளுக்கு நீங்கள் பதிலளிக்கிறீர்களா?		

V. Problem solving

சிக்கல் தீர்த்தல்

SI. No வ. எண்	Problem solving/ சிக்கல் தீர்த்தல்	Yes/ ஆம்	No/ இல்லை
31	Can you take and edit digital photos? எண்ணிம புகைப்படங்களை எடுத்து திருத்த முடியுமா?		
32	Can you record and edit digital sounds? எண்ணிம ஒலிகளைப் பதிவுசெய்து திருத்த முடியுமா?		
33	Can you use a 'search' command to locate a file? ஒரு கோப்பைக் கண்டுபிடிக்க 'தேடல்' கட்டளையைப் பயன்படுத்த முடியுமா?		
34	Do you know to add special effects to recorded audios and videos? பதிவு செய்யப்பட்ட ஆடியோக்கள் மற்றும் வீடியோக்களில் சிறப்பு விளைவுகளைச் சேர்க்க உங்களுக்குத் தெரியுமா?		

35	Do you know to convert spoken words into text? பேசும் வார்த்தைகளை உரையாக மாற்ற தெரியுமா?		
36	Do you know to evaluate information provided on websites? இணையதளங்களில் கொடுக்கப்படும் தகவல்களை மதிப்பீடு செய்ய உங்களுக்குத் தெரியுமா?		
37	Can you record and edit digital videos? எண்ணிம காணொளிகளை பதிவு செய்து திருத்த முடியுமா?		
38	Do you know to translate one language to another needed language? ஒரு மொழியை மற்றொரு தேவையான மொழிக்கு மொழிபெயர்க்க உங்களுக்குத் தெரியுமா?		

SECTION-III
LEARNING SKILL QUESTIONNAIRE
கற்றல் திறன் கேள்வித்தாள்

Sl. No வ. எண்	QUESTIONS/ வினாக்கள்	Always/ எப்போதும்	Sometimes/ சில நேரங்களில்	Never/ ஒருபோதும் இல்லை
1. REFLECTION/பிரதிபலிப்பு				
1.	If I am having difficulty, I inquire assistance from an expert. எனக்கு சிரமம் இருந்தால், நான் ஒரு நிபுணரிடம் உதவி கேட்கிறேன்.			
2.	I evaluate my accomplishments at the end of each study session. ஒவ்வொரு ஆய்வு அமர்வின் முடிவிலும் எனது சாதனைகளை மதிப்பீடு செய்கிறேன்.			
3.	I ask others how my work is, before passing it to my professors. எனது வேலை எப்படி இருக்கிறது என எனது பேராசிரியர்களுக்கு அனுப்புவதற்கு முன் மற்றவர்களிடம் கேட்கிறேன்.			
4.	I monitor my improvements in doing certain tasks. சில பணிகளைச் செய்வதில் எனது மேம்பாடுகளை நான் கண்காணிக்கிறேன்.			
5.	I ask for feedback of my performance from someone who is more capable. திறமையான ஒருவரிடம் எனது செயல்திறன் பற்றிய கருத்தைக் கேட்கிறேன்.			
6.	I am open to feedback to improve my work. எனது பணியை மேம்படுத்த பின்னூட்டங்களுக்கு நான் தயாராக இருக்கிறேன்.			
7.	I browse through my past outputs to see my progress. இணைய உலா மூலம் எனது கடந்தகால வெளியீடுகளை பயன்படுத்தி எனது முன்னேற்றத்தைக் காண்கிறேன்.			
8.	I am open to changes based on the feedbacks I received. நான் பெற்ற பின்னூட்டங்களின் அடிப்படையில் மாற்றங்களுக்குத் தயாராக இருக்கிறேன்.			
2. KNOWLEDGE AND UNDERSTANDING/அறிவு மற்றும் புரிதல்				
Sl. No வ. எண்	QUESTIONS/ வினாக்கள்	Always/ எப்போதும்	Sometimes/ சில நேரங்களில்	Never/ ஒருபோதும் இல்லை
9.	I use library resources to find the information that I need. எனக்குத் தேவையான தகவல்களைக் கண்டறிய நூலக ஆதாரங்களைப் பயன்படுத்துகிறேன்.			

10.	I take my own notes in class. வகுப்பில் எனது சொந்த குறிப்புகளை எடுத்துக்கொள்கிறேன்.			
11.	I call my classmate to ask about the homework that I missed. நான் தவறவிட்ட வீட்டுப் பாடத்தைப் பற்றி கேட்க என் வகுப்பு தோழரை அழைக்கிறேன்.			
12.	I exchange my notes with my friend. நான் எனது குறிப்புகளை எனது நண்பருடன் பரிமாறிக் கொள்கிறேன்.			
13.	I explain to my peers what I have learned. நான் கற்றுக்கொண்டதை என் சகாக்களுக்கு விளக்குகிறேன்.			
14.	I study with a partner to compare notes. குறிப்புகளை ஒப்பிட்டுப் பார்க்க நான் ஒரு கூட்டாளருடன் படிக்கிறேன்.			
15.	I visualize words in my mind to recall terms. சொற்களை நினைவுபடுத்த என் மனதில் வார்த்தைகளை நான் கற்பனை செய்கிறேன்.			

3. SKILLS AND STRATEGIES/திறன்கள் மற்றும் உத்திகள்

Sl. No வ. எண்	QUESTIONS/ வினாக்கள்	Always/ எப்போதும்	Sometimes/ சில நேரங்களில்	Never/ ஒருபோதும் இல்லை
16.	I recheck my homework if I have done it correctly before submitting. நான் எனது வீட்டுப் பாடத்தை ஒப்படைப்பதற்கு முன்பு நான் சரியாகச் செய்திருக்கிறேனா என்பதை சரிபார்க்கிறேன்.			
17.	I do things as soon as the teacher gives the task. ஆசிரியர் பணி கொடுத்தவுடன் நான் பணிகளைச் செய்கிறேன்.			
18.	I am concerned with the deadlines set by the teachers. ஆசிரியர்கள் நிர்ணயித்த காலக்கெடு குறித்து நான் கவலைப்படுகிறேன்.			
19.	I prioritize my school work over other activities. மற்ற செயல்பாடுகளை விட எனது பள்ளிப் பணிகளுக்கு முன்னுரிமை அளிக்கிறேன்.			
20.	I use note cards to write information I need to remember. நான் நினைவில் கொள்ள வேண்டிய தகவலை எழுத குறிப்பு அட்டைகளைப் பயன்படுத்துகிறேன்.			
21.	I make list of related information by categories. தொடர்புடைய தகவல்களை வகைகளின்படி பட்டியலிடுகிறேன்.			
22.	I rewrite class notes by rearranging the information in my own words. எனது சொந்த வார்த்தைகளில் தகவலை மறுசீரமைப்பதன் மூலம் நான் வகுப்பு குறிப்புகளை மீண்டும் எழுதுகிறேன்.			
23.	I enjoy group work because we help each other. நாங்கள் ஒருவருக்கொருவர் உதவுவதால் குழும்பணியை நான் ரசிக்கிறேன்.			

4. CONFIDENCE AND INDEPENDENCE/ நம்பிக்கை மற்றும் சுதந்திரம்

Sl. No வ. எண்	QUESTIONS/ வினாக்கள்	Always/ எப்போதும்	Sometimes/ சில நேரங்களில்	Never/ ஒருபோதும் இல்லை
24.	I highlight important concepts and information, I find in my readings. எனது வாசிப்புகளில் நான் கண்டறியும் முக்கியமான கருத்துக்கள் மற்றும் தகவல்களை நன்கு புலப்படுத்துகிறேன்.			
25.	I picture in my mind how the test will look like based on previous test. முந்தைய தேர்வுகளின் அடிப்படையில் தேர்வு எப்படி இருக்கும் என்பதை நான் மனதில் நினைத்துப் பார்க்கிறேன்.			
26.	I put my past notebooks, handouts and other materials at a certain place. எனது கடந்த கால குறிப்பேடுகள், கையேடுகள் மற்றும் பிற பொருட்களை ஒரு குறிப்பிட்ட இடத்தில் வைக்கிறேன்.			
27.	I study at my own pace. நான் எனக்கான வேகத்தில் படிக்கிறேன்.			
28.	I make sure my study area is clean before studying.			

	படிப்பதற்கு முன் எனது படிக்கும் பகுதி சுத்தமாக இருப்பதை உறுதி செய்கிறேன்.			
29.	I write messages for myself to remind me of my homework. எனது வீட்டுப்பாடத்தை நினைவூட்டுவதற்காக நானாகவே செய்திகளை எழுதுகிறேன்.			
30.	I make a detailed schedule for my daily activities. எனது அன்றாட செயல்களுக்கான விரிவான அட்டவணையை உருவாக்குகிறேன்.			
31.	I make a timetable of all the activities I have to complete. நான் முடிக்க வேண்டிய அனைத்து செயல்பாடுகளுக்கான கால அட்டவணையை உருவாக்குகிறேன்.			
5.CREATIVITY/ படைப்பாற்றல்				
SI. No வ. எண்	QUESTIONS/ வினாக்கள்	Always/ எப்போதும்	Sometimes/ சில நேரங்களில்	Never/ ஒருபோதும் இல்லை
32.	I use graphic organizers to put abstract information into a concrete form. சுருக்கமான தகவலை ஒரு உறுதியான வடிவத்தில் வைக்க நான் வரைகலை அமைப்புகளைப் பயன்படுத்துகிறேன்.			
33.	I represent concepts in diagram so that I can easily remember them. நான் வரைபடத்தில் கருத்துகளை பிரதிநிதித்துவப்படுத்துகிறேன், அதனால் நான் அவற்றை எளிதாக நினைவில் கொள்ள முடியும்.			
34.	I make outlines as guides while I am studying. நான் படிக்கும் போது வழிகாட்டியாக விவரத் தொகுப்புகளை உருவாக்குகிறேன்.			
35.	I record the lessons that I study நான் படித்த பாடங்களை பதிவு செய்கிறேன்.			
36.	I make sample questions from a topic and answer them. நான் ஒரு தலைப்பில் இருந்து மாதிரி கேள்விகளை உருவாக்கி அவற்றுக்கு பதிலளிக்கிறேன்.			
37.	I use a variety of sources in making my notes. எனது குறிப்புகளை உருவாக்க பல்வேறு ஆதாரங்களைப் பயன்படுத்துகிறேன்.			
38.	I use planner to keep track of what I am supposed to accomplish. நான் எதைச் சாதிக்க வேண்டும் என்பதைக் கண்காணிக்க தகவல் பட்டியலைப் பயன்படுத்துகிறேன்.			



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I envision better teaching methods and new education technologies that will revolutionize the classroom and encourage lifelong learning.” – Bill Gates



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ISBN: 978-8-19710-779-5



788197 107795



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