Literacy and Numeracy Drive (LND): A Case Study of Basic English Skills Development among Grade 3 Students in Muzaffargarh, Punjab

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Abstract

In the dynamic landscape of modern education, digital literacy has become a fundamental factor in improving future-ready individuals. Literacy skills for improving the digital environment are now critical to academic performance and preparing students for future academic roles. This study explores the role of Literacy and Numeracy Drive (LND) in assessing the quality of education to improve digital literacy skills in Basic English among grade 3 students in District Muzaffargarh, Punjab, Pakistan. Under Standard Learning Outcomes (SLOs), Grade 3 students' Literacy and Numeracy Skills are assessed by a Monitoring and Evaluation Assistant (MEA) using an LND mobile Application every month. The study used a qualitative case study along with the researcher's autoethnography where 4 different public schools in the concerned district were selected. For the data collection, one teacher and one student from each school were selected using purposive sampling. And interviews were conducted via online tools and the results were analysed by thematic analysis. The research aims to uncover the progress in improving overall Basic English skills and to recommend techniques. Findings suggest steps to train the teachers who are responsible for teaching and to increase tablet devices for maximum engagement of students.

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Introduction

Starting from the 21st century, the international society pays more and more attention to Quality Education and puts it at the top of the educational reform and development agenda (Huang et al., 2011). According to the National Education Policy (2010) and Khushik (2021), Pakistan, as a partner to Education for All (EFA), the Dakar Forum, and the Millennium Development Goals (MDGs), has made a promise to improve education. However, despite these commitments, the state of education in Pakistan is not stable, and 10 % of out-of-school children are from Pakistan out of other Dakar countries, which indicates a policy failure (Ashraf, 2016).

Moreover, the Dakar Framework for Action (2000) advocated for change in the system to facilitate education enhancement to achieve literacy, numeracy, and other relevant skills in society. Annual Status of Education Report (ASER- Pakistan) has pointed out problems For example, in 2015, 45% of fifth-grade students failed to read a second-grade-level novel in Urdu, Sindhi, or Pashto, while 51% failed to read lines in English (Ajmal et al., 2023). To tackle these ongoing issues the Punjab government launched the education reform known as the Literacy and Numeracy Drive (LND) for enhancing education quality. According to the National Education Policy 2017, targets were set for achieving quality education for all, focusing on literacy, numeracy, problem-solving, and global quality education by 2020 (Policy, 2010).

The school education department in Punjab is continuously struggling to improve the Literacy and Numeracy skills of primary-level students to make them capable of doing the reading, writing, speaking, and listening skills enough to further step successfully into middle and high school grades (Khalid et al., 2019). It is important to note that Math and Urdu Language are integrated parts of the Literacy and Numeracy campaign in Punjab, but the objective is to transform English from a traditional language into a modern language (Rashid et, al 2016). So this is the core element of this study to evaluate English Skills as one of the basic subjects in this LND campaign. The purpose of launching this advanced method in a very conservative educational system was to adopt and get maximum benefits from the technology and it was the first and foremost method where tablets and computers were used properly (Habib et al., 2021). Furthermore, the agenda included following global trends in the classroom employing iPods, laptops, and tablets, and providing students with digital Learning Tools.

As stated by Çelik, S., & Aytin, K. (2014), Craig & Patten (2007) found that in the ELL context, the use of digital resources has positive effects on the learner's verbal interaction, growth of his or her vocabulary,

and improving the reader's comprehension of texts. On the same note, uses of the internet and social media in particular help develop intercultural competence and global citizenship among students. In addition, Warschauer, and Healey (1998, cited in Brown 2001, p.145) suggested that the integration of digital technologies into large ELT classes can promote individual learning, multiple practices, collaboration, and fun among the learners.

The international educational monitoring organizations also have been putting stress on improving literacy and numeracy skills lacking in public school children. So this study will look into how much English is improving and what else is needed to make the LND more compatible, or whether the LND has a flaw. What suggestions do teachers have for how to achieve the literacy and numeracy initiative's goal? This paper focuses on the unique contribution of Literacy and Numeracy Drive (LND), guided by SLOs, to the development of digital literacy skills in Basic English as a simplified language form of essential vocabulary that prefers a basic set of basic grammatical structures (Habib et al., 2021; Khalid et al., 2019).

So from above all historical background and discussion, the main objective of this study is to determine the extent to which LND, by SLOs and administered via tablet, enhances students' digital literacy abilities in Basic English for third-grade pupils enrolled in the designated schools (Choudhary, et, al 2021). Moreover, Livingstone et al. (2023) state that among the expected outcomes of digital tools are to improve proficiency in recognizing digital directions, critical engagement with digital media, and the ability to generate.

Theoretical frameworks

1. Technological Pedagogical Content Knowledge (TPACK)

The study's theoretical foundation is based on educational theories about technology integration, digital literacy, and pedagogical practices. This framework provides a basic structure for the study's design, guides data-collecting procedures, and aids in the interpretation of empirical findings. The study is based on Mishra and Koehler's (2006) Technological Pedagogical Content Knowledge (TPACK) framework and investigates the integration of Technological Knowledge (TK), Pedagogical Knowledge (PK), and Content Knowledge. This study examines the integration of technology, pedagogy, and content in District Muzaffargarh, focusing on how teachers direct obstacles and influence technology to improve digital literacy and pedagogical practices in their specific setting.

1. **Interpretative Phenomenological Analysis (IPA)**

One of the qualitative research approaches used in the psychology profession is called Interpretative Phenomenological Analysis (IPA), and it focuses on how individual participants create their meanings from a given event or setting. Though IPA is idiographic and focuses on understanding how an individual understands a particular situation inside their context, other qualitative analytic approaches have a tendency to generalize findings. The benefit of this technique is that it provides specific information about people's experiences rather than vast amounts of impersonal norms (Eatough, V., & Smith, J. A. (2017).

1. **Narrative inquiry**

Narrative inquiry, according to researchers, is a study that involves recording the story of one or a small group of people. This strategy frequently uses narratives to collect maximized individual descriptions, followed by a chronological organization of details, providing information about the participants' lives (Muylaert et al., 2014).

1. **Constructivist grounded theory**

Grounded theory is one of the conventional methods of qualitative research methodologies and is constructed from constructivism; this methodology entails comparing ethical theories, which include deontology, utilitarianism, and virtue ethics. It aims at the process involved in the formation of the worldview of the surrounding world of work. The approach also embraces an inter-subjective construction of the meaning since it recognizes that reality and knowledge are socially constructed and contextual and that meaning is made through interaction and interpretation (Mills et, al 2014).

All the theoretical frameworks such as TPACK, IPA, Narrative Inquiry, and Constructivist Grounded Theory are useful in offering a broad approach to analyzing the complex interactions between individual and contextual experiences with technology integration, pedagogy, and content knowledge in educational contexts. As for TPACK, it is conceived as the overall theoretical framework of the study which aims at investigating how teachers use technology in the context of Literacy and Teacher Education. IPA on the other hand supports this by investigating and exploring teachers/students' perception/interpretation of the presence or role that technology takes or plays in the education setting. On the one hand, Narrative Inquiry enriches the context by disclosing the participants' stories of their experiences and, at the same time, presents the chronological and detailed account of the depicted events. Another

extension of Grounded Theory is Constructivist Grounded Theory which adds the social construction of knowledge and reality taking into account the processes of interaction and interpretation that occurred in participant's minds. Altogether, these frameworks provide the set of tools to consider the multiple aspects of technology integration in the education process and to have a deep insight into the research context.

Research Questions

What challenges do Grade 3 students face when using tablets to develop Basic English skills under the LND Initiative?

Objectives:

1. To determine the improvement in Basic English of Grade 3 students through the use of the LND application.
2. Analyze the problems and constraints regarding the effective implementation of digital literacy tools in the primary education context of District Muzaffargarh.
3. Examine how teachers can support the integration of LND for the development of students' digital literacy as well as their Basic English.

It is critical to assess the consequences of LND through technology integration, which has altered the teaching method and educational journey of the School Education Department, Punjab. Indeed, English has gained popularity in almost every social circle, also it is evident that globalization is to blame for English's growing importance. Since the state's inception, the English have held a major position in educational priorities and practices. Educating English public primary students using technology is much more important now to achieve the best English learning for grade 3 primary school students. In light of this critical issue, the government believes that third grade serves as a bridge for the primary section.

Literature Review

A comprehensive exploration of existing literature underscores the multifaceted importance of digital literacy skills in education, establishing a clear link to academic success and future employability. While numerous studies have delved into the broader landscape of technology integration in educational settings, recognizing the transformative potential of digital literacy, there remains an apparent gap in the literature regarding the nuanced influence of targeted programs like the LND on digital literacy development, particularly within the context of primary education (Ishaq et al., 2019, 2020).

The study provides a critical long-term understanding of the interplay between LND and digital literacy systems (Malik, 2011). Prior to the tablet's availability, literacy and numeracy exercises were completed by hand using paper-based methods. A sophisticated understanding of LND's involvement in the development of digital literacy is ensured by this study (Ishaq et al., 2019).

According to the report of Oxfam and Idara Taleem O Agahi (2009), about Grade 3, "English had the lowest average score as compared to Mathematics and General Science with an average score of 29%, 41%, and 52% respectively. From these findings, it was found that the students are weakest in English and their performance in Mathematics and Science is moderate."
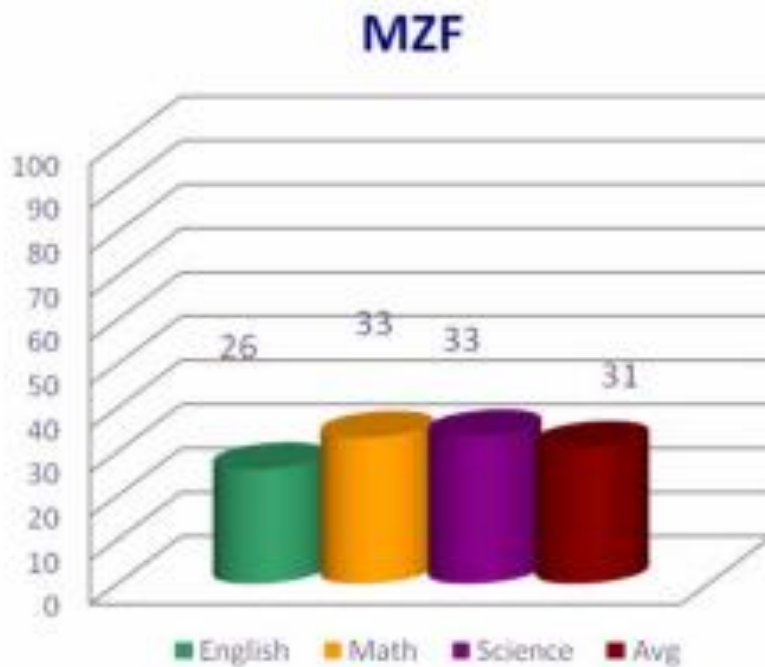
English	Mathematics	Science	Average
26	33	33	31

Fig.1. Sample of the Study

Integration of Personal Experiences

To enhance the depth of the literature review, the integration of personal experiences, especially those of the author who has been using LND for grade 3 and is an English teacher in one of the Schools can provide valuable insights (Habib et al., 2021; Khalid et al., 2019). Researchers' own experiences can offer a unique perspective on the practical application of LND, aligning with Student Learning Outcomes (SLOs) and its effect on digital literacy skills.

Alignment with Educational Goals

Arsari, M. A. (2022) says, that enhancing the literature review involves expanding on how digital literacy skills align with broader educational goals and contemporary learning theories. Moreover, digital literacy is not only essential for technological proficiency but also aligns with the development of critical thinking, problem-solving, and communication skills. By exploring these alignments, the literature review offers a more comprehensive understanding of the broader educational implications of digital literacy.

International Perspectives

To offer a global context for the study, the literature review discusses international perspectives on digital literacy in primary education. Exploring how various countries approach digital literacy initiatives provides a broader context for understanding the challenges and opportunities in the specific study setting of District Muzaffargarh Schools. Comparisons with international practices contribute to the identification of best practices and potential areas for improvement in the local context, considering the global effect of Quality Drive (QD) and the Punjab Information Technology Board (PITB).

Challenges and Opportunities

The literature addresses challenges and opportunities associated with digital literacy initiatives in primary education, considering academic improvement, functional skills, and the Quality Education goal. Identifying common challenges faced by students, teachers, and educational institutions across different studies helps contextualize the potential challenges that may arise in the implementation of the LND in District Muzaffargarh (Raza et al., 2022; Khalid et al., 2019).

Research Methodology

Research Design

Qualitative Case Study Combined with Autoethnography

The study uses the qualitative case study research design along with the autoethnography using the researcher's own experiences making the research result more authentic and reliable that deeply understand the issue. According to Priya, A. (2021), the qualitative case study research approach is used when the researcher inquires about a specific activity, event, program, or one or more people to properly analyze them. The study makes use of autoethnography storytelling, in which the researcher participated at the research site and aligned social, cultural, and institutional analysis reflecting personal experiences that are relevant to the study (Farrell et al., 2015). Important insights are provided by the researcher's experiences working with LND for grade 3 pupils while teaching English in Muzaffargarh (Habib et al., 2021). A comprehensive investigation of LND's influence on digital literacy abilities in Basic English is ensured by integrating instructor and student data and insights from online sources.

Instruments of the Study

1. **Interviews**

Detail of the Tool

Participants

Purposive sampling was used to pick four public primary schools in the Muzaffargarh district, and one teacher and one student from each school were interviewed via online sources such as Zoom or WhatsApp. As part of the data collection procedure, in-depth interviews were conducted with the chosen teachers. Student viewpoints are also included via detailed interviews. This selection demonstrates the varied educational dynamics that exist within Punjab's school education department. One district out of 36 districts and four schools provide an excellent example of representation.

Purposive sampling

A method in qualitative research known as judgmental or selective sampling occurs when a researcher chooses a certain group or individual for study with a proper objective or purpose rather than choosing at random (Hossan, Mansor, & Jaharuddin, 2023).

Document Analysis

As a part of this research which is a qualitative case study complemented by autoethnography, documentary analysis helped cross-check data as well as gain a deeper context of LND in Punjab. This process included scrutiny of such existing documents as government policies, educational reports, and the like that were related to the LND and its effectiveness among the targeted learners particularly, the Grade 3 students, in District Muzaffargarh.

Another reason that document analysis in this study sought to identify hidden concepts and stories that resonated with autoethnography participants' narratives and interview findings. In this way, the research aimed at determining how the policy directives are put into practice, what obstacles are met in enhancing digital literacy, and the context of the external factors that need to be taken into consideration.

It offered a way of supporting and situating the personal and subjective information gathered via autoethnography so that the end findings presented here were not only autoethnographic but also educational policy and systems-based. Thus, the combination of document analysis with the other qualitative methods allowed research to present a comprehensive picture of the LND's involvement in the formation of educational outcomes in Punjab.

Data Sources

A number of important documents are chosen to provide a comprehensive overview of the implementation and/or impacts of LND. These are the **LND Program Guidelines** which present the goals, approaches, and plans for the LND; the **Student Assessment Reports** which present the performance in the placed digital literacy tasks and activities and English test that is related to the LND; the **School Records** present the classroom resources, infrastructures and support on the implementation of the LND; the **Teacher Lesson Plans** which contains the integration of the use of the digital tools and the guidelines on the LND.

Data Analysis Methods

Thematic analysis

Thematic analysis was employed systematically to extract data from teachers' and students' sources. This analytical technique identifies patterns and themes in the data, resulting in a more comprehensive understanding of the varied development of digital literacy abilities. The analysis not only emphasizes favorable features, but also discusses

obstacles and opportunities, resulting in a thorough and constructive examination of the topic (Clarke, V., & Braun, V. 2017)

Ethical Considerations

As part of this study on the Literacy and Numeracy Drive (LND) in Muzaffargarh schools, informed consent was obtained from all respondents, including teachers, students, and monitoring and Evaluation Assistants (MEAs). All participants were informed of the research project and informed that they could withdraw at any time if they did not wish to participate. Some policy matters covered included student data, where issues of parental consent and sensitive interactions were followed. Throughout the entire process, ethical considerations were observed and measures were taken to ensure the participants' volitional comfort and expected respect. It was necessary to protect participants' trust and prevent betrayal during the study by taking such measures. It was necessary to protect participants' trust and prevent betrayal during the study by taking such measures.

Results & Discussion

Students may encounter challenges such as varying levels of digital acquaintance, limited access to technology, and potential socio-economic disparities affecting digital literacy development. Addressing these challenges is crucial not only within the LND framework but also by fostering collaboration with parents. Parental involvement, assessed by the Monitoring and Evaluation Assistant (MEA) using special devices and applications, can bridge the gap between school and home environments, providing additional support and resources for students to enhance their Basic English through digital literacy skills.

Effect of LND on Digital Literacy Skills

The qualitative data analysis revealed a significant effect of the Literacy and Numeracy Drive (LND) on the digital literacy skills of grade 3 students in Basic English. Teachers consistently reported that the systematic learning objectives (SLOs) embedded in the LND program facilitated the development of digital navigation, critical engagement with digital content, and the ability to create meaningful digital content.

The first teacher stated: "LND's focus on clear learning objectives has transformed how students approach digital tasks. They now navigate through educational apps with confidence and actively recognize the Basic English concepts."

A student in grade 3 from the same school states: The concepts of learning objectives at LND have shifted my focus on digital tasks in a positive way and I am more confident while going through different applications for education, I also consciously identify concepts from Basic English from time to time.

According to the researcher's view, this systematic mode of LND significantly increases students' attention toward digital content helping students develop confidence in using digital tools.

This finding is consistent with previous research emphasizing the value of tailored programs in promoting digital literacy abilities. The inclusion of LND's SLOs into the curriculum provided teachers and students with a defined framework to help them incorporate digital literacy into their pedagogical methods.

Teachers' Role in Technology Integration

Teacher plays a critical role in overcoming obstacles and utilizing technology to improve digital literacy and pedagogical methods. The findings revealed that instructors at schools actively supported the use of tablets and applications in their teaching techniques.

A teacher from the second school stated, "As a teacher, I had to adapt and develop English with our students. The tablet proved to be an invaluable tool in making the learning process more dynamic and interesting.

Furthermore, he stated that "integrating technology into our teaching methods was initially challenging, but over time, we observed a positive shift in students' enthusiasm and understanding." The Tablet enabled us to accommodate a variety of learning styles and make sessions more interactive."

A student shared a similar perspective "Learning using the tablet was easy because the lessons are presented in a very interesting way and I could understand the teacher's lessons well."

Moreover, the researcher describes: "This digital literacy increased student's excitement that supported the notion of change which boosted a constant professional development throughout his teaching practice."

This highlights the significance of teacher flexibility and ongoing professional development in the context of changing educational technologies. The study implies that teacher training programs should focus on improving digital literacy to optimize the positive impact of initiatives such as LND.

Challenges in Digital Literacy Development

Despite the positive effect, challenges in digital literacy development

were identified. Varying levels of digital acquaintance among students, limited access to technology, and potential socio-economic disparities posed obstacles to the seamless integration of LND.

The teacher from another school highlighted, "Not all students have access to tablets at home and even school has only one tablet, affecting their practice time. This creates a disparity in digital skill development among students."

One student shared a similar concern: "Not all students have tablets at home which hinders them in learning and practicing, hence they lag in mastering what comes with the use of tablets."

Research says, "With poor technology differentiations among students, researchers observed a big gap between students depending on the available technology. Moreover, the lack of gadgets at school and at home contributes to low digital skills learning."

The challenge repeats existing literature that emphasizes the importance of addressing accessibility issues in technology-integrated education. The findings suggest the need for a comprehensive approach that considers the digital readiness of all students to ensure equitable learning experiences.

Parental Involvement as a Bridge

The study found that parental engagement was critical in overcoming difficulties and improving digital literacy abilities. Teachers noted that incorporating parents in the learning process via unique gadgets and software, which were monitored by the Monitoring and Evaluation Assistant (MEA), helped to bridge the gap between school and home environments.

Teacher 3 stated, "Parental engagement is essential. When parents actively participate with the learning apps and provide support at home, students' digital literacy skills develop significantly."

A student also emphasized this point: '"When my parents were busy with cellphones it supported me in learning my digital literacy skills"

Researcher Quotes: "Parents involvement became more apparent during observations as an important factor that helps bridge the gap between home and school. Researchers found parental engagement in digital gadgets is good for their kids, and especially helps them develop their digital literacy skills."

Parents' involvement is consistent with the theoretical framework based on the Technological Pedagogical Content Knowledge (TPACK) paradigm which highlights the interconnectivity of technology, pedagogy, and content. Parental participation has emerged as an important factor in

the successful integration of technology into the learning process of their children.

Recommendations

Designing a System for Supporting Digital Literacy

This study suggests the following support systems to integrate with the existing LND Framework.

Enhanced Teacher Training: Develop specific Continuing Professional Teaching Education for Teachers wherein technology use in education is well-incorporated. Implementation should include not only the technical knowledge of how to use tablets and applications but also the teaching approaches that increase the achievements of the learners.

Increased Access to Technology: Make sure that every learner has fair access to the devices to the devices at school as well as at home. This could be supplying more tablets or establishing tab unleashing centers more often in students' communities during school or after school time. Thus, partnerships with local organizations or state programs, aimed to reduce the gap between poor and rich can raise the level of technology in schools.

Parental Engagement Programs: Introduce and market learning programs that engage parents in their children's digital learning process. Incorporating capacity building on how to use the educational applications and other tools, together with general ways of helping the child to learn at home may supplement the attempts to promote digital literacy.

Regular Monitoring and Feedback: Set up an efficient assessment plan to track the effectiveness of the process that enhances students' digital literacy regularly. There must be feedback processes that allow changes to be made depending on observations and data FROM teachers AND students.

Holistic Support Framework: Develop an approach that includes all technical, classroom, and emotional points of view to deal with Digital Literacy. This framework should contain information that can help to cope with such problems as lack of digital competencies, lack of technologies, and others of the socio-economic nature.

Limitation

The study's findings are context-specific, focusing on a small sample of schools in District Muzaffargarh, Punjab, which limits the generalizability of the results to other regions or broader populations.

Policy Implications for Meaningful Instruction and its Teachers

The findings of this study have several important implications for policymakers and educators in Punjab and similar regions, especially in the context of ongoing educational reforms: The findings of this study have several important implications for policymakers and educators in Punjab and similar regions, especially in the context of ongoing educational reforms:

Policy Reformation and Technology Integration:

Thus the paper emphasizes the need to take measures at the earliest years of learning in developing digital competence. In this case, such evidence can help policymakers encourage the adoption process of using technology to implement technology in early education so that they enhance the class usage of modern applications such as the LND mobile application. This may result in parliamentary changes that encourage the incorporation of technological tools in more schools thereby providing humane digitization education to underprivileged students.

Teacher Training and Development:

This is one of the most important discoveries, which points to the necessity of improving the quality of teachers' professional development concerning the integration of new technologies into the practice. School education departments could develop intervention measures that consist of special courses aimed at developing teachers' competencies related to the use of digital equipment inclusive of LND. Other possibilities may also be the provision of specialized courses for teachers, for example, in the frame of academic-year constant professional training to familiarize teachers with the newest tendencies in the sphere of educational technologies.

Resource Allocation:

The study, therefore, highlights the significance of making adequate provisions like in the form of tablets to facilitate a high level of students' participation. The government could consider funding issues in technology development in schools, especially in areas that are rated least developed. It may mean procuring enough digital devices and guaranteeing stable internet connections to make constant use of the LND application possible.

Parental Involvement:

The study thus notes the significance of the parents in integrating their

efforts with those targeted on improving the outcomes of developing literacy that may be associated with digital tools. Teachers and government officials can work together to develop other programs that will engage parents on the need to upgrade their knowledge of the essentials and how to support their children with their education from the comfort of their homes. This might comprise awareness creation through Portable workshops, training, or sharing of relevant materials that educate parents on how to use advanced technology in supporting the education of their children.

Addressing Socio-Economic Disparities:

According to the study, some issues are connected to the socio-economic inequality in the usage of digital resources. The government could thus find ways of solving such differences, including coming up with subsidies for digital devices or supporting schools in areas with low income. This could help to make sure that each student in a given class or school regardless of his or her background has a chance to achieve competencies in digital tools.

Monitoring and Evaluation:

The study evidence implies that effective assessment of the progress on the investment in digital literacy efforts such as the LND is important in promotion of the success. In this way, such programs can be better developed and implemented as far as these measures are seen as valuable by the policymakers: the last ones can create effective systems of monitoring and evaluations that can determine the efficiency of such measures and, as a result, correct or improve the existing programs. This could include making assessments that directly draw out and look at the results of increased student digital literacy.

Conclusion

The study provides valuable insights into the transformative influence of the Literacy and Numeracy Drive (LND) on digital literacy skills in Basic English for grade 3 students in District Muzaffargarh. With regards to this study, LND is revealed to have positive impacts, the digital literacy development process is revealed to have some difficulties, the importance of parental involvement as a connection is portrayed and lastly, teachers are revealed to be very important in the integration of technology. Altogether, the results enrich the existing knowledge base of the relationships between educational activities, technology utilization, and promotion of digital literacy skills from the grassroots level. This research

is in line with the fact that the innovative approach of LND has been successful in developing digital literacy skills; yet, factors such as differences in the levels of digital acquaintance and the lack of access to proper technology call for an integrative solution. Further, understanding the significance of parents' participation in their children's education and ensuring educational programs offer sufficient help to the teachers in the effective implementation of technologies are very important components to keep socio-digital literacy focused on its main goals in primary education. Besides contributing to the body of written and empirical knowledge, this research offers useful policy implications for the leaders of District Muzaffargarh and similar settings as well as educators, policymakers, and other stakeholders engaged in the delivery of education. The study is suggestive of the need to maintain a focus on digital literacy as one of the key skills to be developed among first-grade learners with regard to preparing them for future learning in the ever technologically enhanced world.

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