

Prevalence and Correlates of Functional Illiteracy at College Level

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Abstract

The study aimed to ascertain the occurrence and factors contributing to functional illiteracy among college students and focus on the inability to apply essential reading and writing skills in everyday situations. The research highlighted the significance of functional illiteracy among college students and its potential implications. It revealed that many college students struggle with reading comprehension, written communication, critical thinking, and information literacy skills. Several factors contribute to this issue, including inadequate preparation in primary and secondary education, socioeconomic disparities, language barriers, learning disabilities, limited exposure to reading materials, and the rapid advancement of technology. The consequences of functional illiteracy at the college level are significant, impacting academic performance, confidence levels, and future employment opportunities. Addressing this problem requires collaborative efforts among policymakers, educators, and institutions. Strategies should focus on enhancing access to quality education, improving teacher training programs, integrating literacy skills development across disciplines, and promoting digital literacy initiatives. Particular attention should be given to marginalized communities. Awareness campaigns and community engagement initiatives can foster a culture of reading and lifelong learning. Strengthening partnerships between educational institutions, government agencies, community organizations, and the private sector is crucial. Regular monitoring and evaluation of literacy programs are essential for measuring effectiveness and identifying areas for improvement. By understanding the causes and implications of functional illiteracy and implementing comprehensive strategies, educational systems can empower college students with the necessary literacy skills for success in academia and beyond.

Keywords: Prevalence, Functional Illiteracy, Indicators, Illiterate, Deficit, Socioeconomic, socio-cultural, Learning Disability (LD), English Learning (EL)

Introduction

The educational system holds immense importance in society as it equips individuals with the necessary knowledge and abilities for personal and societal progress (Spiel et al., 2018). Educational institutions primarily strive to cultivate well-informed individuals who can positively impact their communities. Literacy is fundamental in today's world, empowering individuals to participate effectively in their daily endeavors (Mezirow, 2007). Despite endeavors to tackle this matter, there are apprehensions regarding a substantial proportion of college students exhibiting functional literacy deficiencies. Functional literacy encompasses more than basic reading and writing skills; it also encompasses critical thinking and the ability to evaluate information (Vágvölgyi et al., 2016). These proficiencies are vital for success across various domains of life. The prevalence of low or non-functional literacy among college students is a significant concern. Despite the expectation that college students have achieved a higher level of education, studies show that many lack the necessary literacy skills for everyday tasks. This study aims to examine the extent of non-functional literacy among college students, identify the contributing factors to its prevalence, and propose potential solutions to address this issue.

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Functional illiteracy pertains to the incapacity to proficiently utilize reading, writing, and arithmetic skills in everyday circumstances, despite possessing basic literacy capabilities (Vágvölgyi et al., 2016). Numerous countries, including the United States, confront a notable challenge concerning functional illiteracy among college students. This study aims to examine the factors contributing to the prevalence of functional illiteracy among college students and suggest potential remedies. Functional illiteracy obstructs individuals' capacity to comprehend and apply written information, impeding their educational, social, and economic advancement. It can lead to difficulties finding employment, accessing healthcare information, understanding legal documents, participating in democracy, and pursuing lifelong learning. Functional illiteracy should be distinguished from complete illiteracy, as it represents a lower literacy proficiency level where individuals struggle with more advanced tasks. The issue of functional illiteracy, particularly in underdeveloped countries like Pakistan, has severe implications for the youth and the country's overall growth. Functional illiteracy traps individuals in a cycle of limited opportunities, impacting their prospects and hindering national development (Ullah, 2006).

Functional illiteracy at the college level can be attributed to many interconnected causes that hinder students' ability to acquire essential literacy skills. Firstly, limited access to quality education in early childhood and primary levels can set the foundation for future challenges in literacy development. Secondly, persistently low literacy rates in specific regions or communities can perpetuate the cycle of illiteracy, impacting students as they progress through higher education. Socioeconomic factors also play a significant role, with students from disadvantaged backgrounds facing barriers such as poverty, lack of resources, and unstable home environments that can impede their literacy growth.

Moreover, gender inequality can create disparities in educational opportunities, affecting girls' access to education in some cultures or regions. Additionally, linguistic diversity poses challenges, particularly for students whose primary language is different from the language of instruction at college, making it harder for them to grasp complex concepts (Buchmann, DiPrete, and McDaniel, 2008).

Insufficient teacher training and limited emphasis on functional literacy skills in the curriculum can hinder educators' ability to effectively address their students' diverse needs. Additionally, the lack of adult literacy programs means that some college students may still struggle with basic reading and writing skills, which can hamper their overall academic performance.

Technology, while offering numerous benefits, can also contribute to functional illiteracy. Over-reliance on spell-checkers and autocorrect features can hinder students' spelling and grammatical skills. English as a second language (ESL) students may face unique challenges as they navigate college coursework in a language that may not be their mother tongue.

Furthermore, students with learning disabilities may encounter obstacles in acquiring functional literacy skills, requiring specialized support and accommodations. Addressing these causes of functional illiteracy requires a multifaceted approach involving early interventions, teacher training, targeted adult literacy programs, and culturally sensitive teaching methodologies to

empower college students with the necessary literacy skills for academic success and beyond (Eme, 2011).

Addressing functional illiteracy requires a multifaceted approach that addresses these causes. It includes improving access to quality education, promoting gender equality in education, investing in teacher training and professional development, implementing inclusive and culturally responsive curricula, providing comprehensive adult literacy programs, and addressing socioeconomic disparities that hinder educational opportunities. Additionally, recognizing and valuing the linguistic diversity in the country and incorporating multilingual approaches to literacy instruction can support individuals in acquiring functional literacy skills (Lamorella et al., 1983).

To address the issue of functional illiteracy at the college level, a range of strategies and interventions can be implemented to empower students with essential literacy skills. Ensuring universal access to quality education forms the bedrock of reducing functional illiteracy. By making education accessible to all, regardless of socioeconomic background or geographical location, we can break the cycle of illiteracy and provide opportunities for students to thrive academically. Investing in early childhood education programs is crucial in shaping students' literacy development from a young age. These programs can foster a strong foundation in reading and writing, setting students up for success as they progress through higher education (Capra et al., 2012).

Addressing gender disparities in education is equally vital. We can create a more inclusive learning environment by removing cultural and social barriers that hinder girls' access to education and empowering all students to acquire functional literacy skills. Developing a curriculum that significantly emphasizes functional literacy skills is essential. Integrating practical reading, writing, and communication exercises into various subjects can enhance students' abilities and the relevance of their education. To cater to the functional illiteracy of the adult population, it is imperative to implement comprehensive and accessible adult literacy programs. These programs can help adults develop essential literacy skills and open new opportunities for personal and professional growth (Goetze and Strothotte, 2001).

Investing in teacher training and professional development ensures educators have the necessary pedagogical skills and strategies to deliver effective literacy instruction. Well-prepared teachers can make a significant impact on students' literacy development. Engaging communities and raising awareness about the importance of literacy can be a powerful tool in addressing functional illiteracy. Community involvement and support can create a conducive environment for learning and encourage lifelong literacy habits. Collaboration among government agencies, non-governmental organizations, civil society, and international stakeholders is critical for effectively implementing literacy initiatives. Combining efforts and resources can lead to more comprehensive and sustainable interventions. Regular assessment of literacy skills and monitoring of program effectiveness is essential to guide improvements and ensure accountability. Regular evaluation helps identify areas that need further attention and allows for evidence-based decision-making (Olsen, 1965).

Literature Review

Functional illiteracy, the inability to apply basic reading and writing skills in everyday life, is a critical issue affecting individuals at various educational levels, including college. Understanding the prevalence of functional illiteracy among college students is crucial for developing effective interventions and support systems. The primary objective of this literature review is to present a thorough and inclusive examination of the current body of research and studies pertaining to the prevalence of functional illiteracy among college students. By doing so, it aims to illuminate the scope of the issue, the factors that contribute to it, and the potential consequences. The prevalence of functional illiteracy among college students has recently garnered significant attention and apprehension. Numerous studies have delved into the extent of functional illiteracy within diverse educational institutions, thereby providing valuable insights into the scale of the problem. These studies have employed different methodologies, such as surveys, assessments, and standardized tests, to gather data on students' reading, writing, and comprehension skills.

Ullah (2006) conducted a research study in District Dir, Upper Khyber Pakhtunkhwa, to assess the adequacy of the educational system in equipping students with essential reading, writing, and arithmetic skills. The study aimed to determine whether students graduated with functional literacy or functional illiteracy. Data were collected from 64 college students using stratified random sampling and from 10 subject specialists through purposive sampling, employing quantitative and qualitative methods. The findings revealed that the existing educational practices in the investigated area resulted in producing functionally illiterate individuals instead of competent citizens capable of thriving in a knowledge-based economy. The study identified various factors contributing to functional illiteracy, such as instructors' lack of teaching passion, undue government interference in education, and a lack of collaboration between teachers and parents. The research emphasized the urgent need for significant structural changes in educational institutions and the teaching-learning process to address the widespread issue of functional illiteracy effectively.

Baskakova and Soboleva (2019) conducted a study to explore the aspects of functional illiteracy related to individuals' difficulty in adapting to the changing economic landscape, specifically in terms of proficiency in skills and technology relevant to the digital economy. The research focused on indicators such as computer literacy levels and internet accessibility to assess readiness to utilize digital technology in everyday life and business. The findings indicated that around one-third of the adult population in Russia is at risk of functional illiteracy, with vulnerable groups including older generations, individuals with lower levels of education from low-income backgrounds, and those living in rural areas. Regional disparities and the digital divide were also identified as contributing factors. The researchers propose tailored measures and educational initiatives to address digital illiteracy, particularly targeting high-risk demographic groups in geographically disadvantaged areas. The study used data from comprehensive surveys by Rosstat and the Federal Statistical Survey on the Use of Information Technology to support its findings and recommendations.

Shakir et al. (2011) surveyed Pakistan, specifically focusing on rural and urban areas in the district of Muzaffargarh, to assess the literacy situation. The study employed data derived from comprehensive surveys conducted by Rosstat and the Federal Statistical Survey on the Use of Information Technology to support its findings and recommendations.

Shakir et al. (2011) conducted a survey in Pakistan, specifically focusing on rural and urban areas within the Muzaffargarh district. The study's primary objective was to assess the literacy landscape by conducting a household survey to determine the actual number of literate individuals. Additionally, it aimed to identify any disparities between the reported and measured literacy rates to ensure the data's reliability. Furthermore, the study sought to propose criteria for reporting accurate literacy rates in future censuses conducted in Pakistan. The research findings revealed noteworthy differences between the assessed literacy rates at basic, intermediate, and self-learning levels (29.9%, 17.9%, and 6.4%, respectively) and the reported literacy rate (38.5%) in the Muzaffargarh district. The study shed light on an overestimation of the reported literacy rate by 8.6%. By aiming to provide more precise and dependable data on literacy rates, particularly in the Muzaffargarh district of Pakistan, the research conducted by Shakir et al. highlighted the disparity between reported and measured literacy rates. It contributed to a better understanding of the literacy situation and underscored the necessity for improved criteria when reporting literacy rates in future assessments.

Thompkins and Binder (2003) conducted a study with functionally illiterate individuals in Adult Basic Education programs to examine the relationship between various factors and reading proficiency. They found that phonological awareness, orthographic ability, and contextual knowledge played distinct roles in explaining variations in reading competence. The study compared adult readers with children and revealed that while more skilled readers performed better on most tests, adult readers showed stronger performance in tasks requiring broad world knowledge or experience.

In Sahiwal, Pakistan, a study by Mujtaba et al. (2013) aimed to evaluate how gender and education influence managerial capabilities. The research involved 470 participants and focused on technical, human, and conceptual competencies. The findings revealed significant variations in managerial skills among the individuals surveyed. Surprisingly, no significant gender differences were observed in managerial abilities. In terms of education, the study showed that obtaining a master's degree did not necessarily lead to enhanced human, technical, or conceptual skills. It suggests that higher educational attainment does not always guarantee superior managerial abilities. The implications of these findings are discussed, particularly for educators, managers, and human resources professionals.

Bracken and Fischel (2008) studied the reading habits of preschool children from low-income families participating in the Head Start program. The research involved 233 children and found a strong correlation between the time parents and children spent reading together and the children's interest in independent reading. Multiple regression analyses found that parent-child reading interactions substantially impacted different aspects of children's literacy development, including vocabulary, comprehension of stories and print concepts, and overall emergent literacy skills.

These findings held greater significance compared to demographic factors. Furthermore, the study identified a child's interest in reading as a significant predictor of letter knowledge, surpassing the influence of demographic factors. The implications of this study emphasize the critical role of parent-child reading interactions and the promotion of early literacy skills, particularly among children from low-income households.

Methodology

The research strategy we used for our paper was quantitative methods. For information gathering and inspecting, we interfaced with teachers teaching college students. We communicated with male and female teachers of the Sahiwal Division, who are performing their duties in different colleges. We attempted to communicate with those who face socioeconomic and socio-cultural understanding of language problems during their adult period. In our study, the population size was 809 (male and Female teachers), and the sample size was calculated 267 in which 153 were male and 114 were female teachers of public sector colleges. In the probability sampling method, systematic sampling was used. Therefore, we selected every third teacher from the list of all teachers in Division Sahiwal until we reached a sample size of 267 teachers. The data was collected through a survey method comprising the face-to-face interview. We designed a questionnaire for acquiring the quantitative/primary data. Prior to gathering data, a pilot version of the instrument was created. The questionnaire contained inquiries aimed at obtaining fundamental information from each participant. Feedback from college teachers was considered to revise the questionnaire's pilot version. Once the questionnaire was revised, data collection commenced by distributing it to participants, who were requested to complete it within 10 minutes. While most respondents adhered to the time limit, a few took longer. The coefficient of reliability ranged from a minimum of 0.638.

Results and Discussion

There are various data analysis tools and techniques to analyze the data. However, for this study, computer software SPSS version 16.0 was used, and descriptive analysis was done.

The researcher examined and explained the empirical data, which was collected with the help of a questionnaire. Statistical methods were used for the analysis of data. Researchers selected statistical methods considering the objectives of the study. Two-sided chi-square tests have investigated differences between male and female teachers. The significance level was 0.05 p-value higher than 0.05 was considered statistically significant. Table 1 comprised respondents' frequency and percentage distribution categorized by age, gender, marital status, living status, and education.

Table 1

Frequency and percentage distribution of respondents categorized by Variables.

| Variables | Frequency | Percentage |
|-----------------------|------------------|-------------------|
| Age | | |
| 20-30 | 91 | 31.10% |
| 31-40 | 118 | 44.20% |
| 41-50 | 23 | 12.40% |
| 51 and above | 25 | 9.40% |
| Gender | | |
| Male | 153 | 57.30% |
| Female | 114 | 42.70% |
| Marital Status | | |
| Single | 73 | 27.30% |
| Married | 194 | 72.70% |
| Separate | - | - |
| Divorced | - | - |
| Living Status | | |
| Rural | 107 | 40.10% |
| Urban | 160 | 59.90% |
| Education | | |
| MA/M.Sc | 187 | 70.00% |
| M.Phil | 58 | 21.70% |
| P.hd | 22 | 8.20% |

The table presents the frequency and percentage distribution of the respondents by variables. In the portion of age, around 34.1% of respondents are 20-30, and about 44.2% are 31-40 years old, while 41-50 are 12.4 % and the remaining 9.4% are 51 and above. The results show that most respondents are 31-40 years (44.2%) age group.

As gender shows, around 57.3% of respondents are males, and about 42.7% are females. The results show that the majority of the respondents are males. In the marital status portion, around 27.3% of respondents are single, and about 72.7% are married. The results show that the

majority of the respondents are married. The frequency and percentages by living area show that around 40.1% of respondents belong to rural areas, and about 59.9% belong to urban areas. The results show that most of the respondents live in urban areas.

When observing education, around 70.0% of respondents' MA or M.Sc passed, 21.7 % of respondents' M. Phil, and about 8.2% degree of Ph.D. The results show that most respondents have a degree of MA & M. Sc.

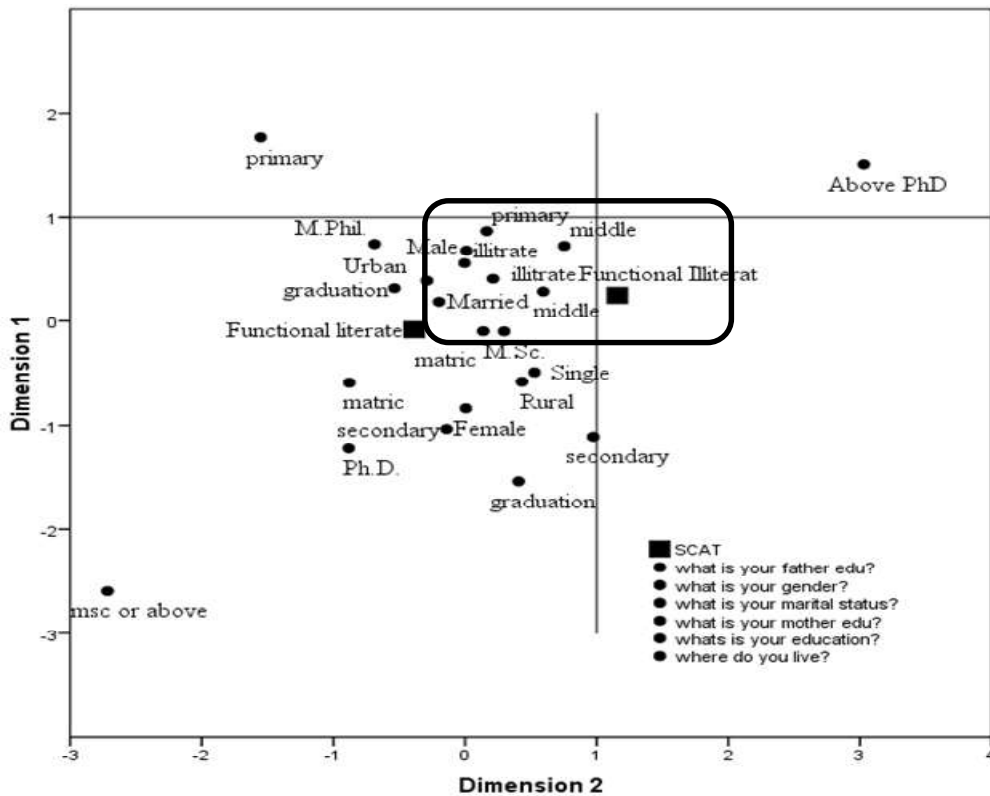


Figure 1 Multiple Correspondence Analysis of Functional Literacy and Illiteracy

Figure 1 shows the interrelation of functional illiteracy and its corresponding variables. It comprises two-dimensional solutions. The Cronbach's Alpha value of dimension 1 is 0.638, and the eigenvalue is 2.206. However, the percentage of the variance of the dimension is 31.518. The Cronbach's Alpha and the eigenvalue of dimension 2 are 0.484 and 1.708, respectively. The percentage of the variance of this dimension is 24.398. Cumulatively, the mean Intertia of the two-dimensional solution is 0.280 (% of variance = 27.958). The graphical result shows that

functional illiteracy is related to the lower educational level of parents, specifically less than matric. The results also showed that most functionally illiterate teachers are married and male.

The primary objective of this study was to ascertain the prevalence of functional illiteracy among college students while identifying its underlying causes and proposing potential solutions. The findings confirm the presence of functional illiteracy among college-level teachers based on questionnaire responses and face-to-face interviews. Another study focused on the challenges of adapting to the modern economic landscape and the digital realm, revealing that approximately one-third of the adult population in Russia is at risk of functional illiteracy in the digital age, with vulnerable groups identified. The importance of promoting equitable access to literacy engagement, especially for English Learners and students from low-income backgrounds, is highlighted. Furthermore, the issue of global illiteracy and barriers to education is addressed, emphasizing the multifaceted nature of the struggle for literacy. Finally, colleges are recognized as crucial institutions for equipping young people with knowledge, critical thinking skills, and practical expertise.

Nevertheless, it is crucial to acknowledge that literacy skills among college students can vary, and they may encounter difficulties in specific academic domains. Some students might face challenges in reading comprehension, essay writing, or conducting research. These challenges can be due to various factors such as language barriers, learning disabilities, lack of prior academic preparation, or inadequate study habits. In colleges, support systems are usually in place to assist students who may need additional help developing their literacy skills.

A study on how college students seek information in the digital age reveals a relationship between their approach and varying degrees of functional illiteracy. While technology and the internet grant access to a wealth of information, navigating and critically evaluating that information is crucial. Functional illiteracy can manifest in different ways within this context. Firstly, students with limited literacy skills may struggle to comprehend complex written content, leading to difficulties understanding and synthesizing information from online sources. Additionally, functional illiteracy is evident when students cannot discern reliable and credible sources from unreliable or biased ones, lacking critical thinking skills to evaluate information accuracy and authority.

Consequently, they might rely on unreliable sources, contributing to misinformation and an incomplete understanding of the subject matter. Moreover, functional illiteracy can be seen in students' limited ability to communicate effectively through digital mediums, such as writing cohesive emails or forum posts. In summary, while the digital age offers vast information opportunities, functional illiteracy can hinder students' capacity to navigate, evaluate, and communicate effectively in this context. A related study supports these findings, showing that if teachers are adept at using new technology, students can perform and complete tasks more efficiently using these tools (Alison, 2009)

Another study involving college students with learning disabilities aims to understand their experiences, challenges, and strategies for success in higher education. Such research often

highlights the importance of supportive environments, accommodations, and resources for students with learning disabilities to thrive academically. In conjunction with earlier research, the study's findings clearly identify key factors that predict academic success for students with specific learning disabilities. However, fostering these abilities and traits is frequently not a top priority among college students with LD or those working with first-year students who have disclosed their learning disabilities. Students with LD transitioning into college should prioritize self-advocacy to navigate their educational journey successfully (Micheal, 2021).

Amidst widespread educational cutbacks, the importance of rational and evidence-based policies becomes even more pronounced. Extensive research supports the notion that literacy engagement is critical for continuous improvement in reading comprehension. Consequently, teachers dedicated to fostering academic success for all students must ensure that English Learners (EL) and low-income students are provided with equal opportunities and incentives to actively engage with literacy, just like their more financially privileged peers. Low income can significantly impact functional illiteracy in several ways. Firstly, low-income individuals may have limited access to quality education, leading to inadequate literacy development. Secondly, financial constraints can hinder access to learning resources, such as books and technology, limiting opportunities for skill enhancement. Thirdly, living in impoverished environments may lead to fewer language-rich experiences, affecting language and reading proficiency. Fourthly, low-income individuals may face stress and instability, making it challenging to focus on academic pursuits. Lastly, the lack of access to adult literacy programs can perpetuate functional illiteracy among low-income populations, hindering socioeconomic mobility (Cummin, 2011).

The study uncovered noteworthy differences in managerial skills among the surveyed individuals. Surprisingly, there were no significant gender disparities observed in managerial abilities. Interestingly, the research demonstrated that obtaining a master's degree did not always translate to improved human, technical, or conceptual skills, implying that higher education does not guarantee superior managerial abilities. These findings have implications for educators, managers, and human resources professionals, shedding light on the factors influencing managerial competency and guiding the design of managerial training and development programs. The findings of the study show that there can be variations in functional illiteracy rates between genders. Factors such as cultural and societal norms, education access, and skill development opportunities may influence these differences. But it is essential to consider that the prevalence of functional illiteracy may vary across different regions and demographics so that the results are different from the previous study by Mujtaba (2013)

Conclusion and Recommendations

Based on the findings, the study concluded that functional illiteracy among college students can be attributed to many factors. These include having parents with low literacy levels, inadequate access to basic facilities, gender inequality, socioeconomic circumstances, socio-cultural factors, language barriers, and a lack of awareness regarding new technologies. The results indicated that

functional illiteracy is lower in literate families and is influenced by a supportive environment, access to facilities, freedom of subject choice, and the absence of gender inequality. Respondents emphasized the need for basic facilities and training sessions to address new technology. Addressing functional illiteracy is a vital responsibility of the government. The occurrence of functional illiteracy among college students is not significantly influenced by gender, as both males and females can encounter challenges in literacy skills. This issue demands immediate attention, and implementing comprehensive strategies can empower college students with the essential literacy skills needed for academic achievement and lifelong learning. Based on the graphical findings, there is a clear correlation between functional illiteracy and parents' lower educational level, particularly those with education below matriculation. Additionally, the results indicate that many functionally illiterate teachers are male and married.

Functional illiteracy is a significant challenge in Pakistan, and addressing it requires a comprehensive approach involving multiple stakeholders. To combat functional illiteracy among college students, several recommendations are proposed. These include improving access to education, placing emphasis on early childhood education, providing comprehensive teacher training and professional development opportunities, implementing curriculum reforms, offering literacy programs for adults, promoting technology and digital literacy, engaging communities, fostering partnerships and collaboration, monitoring and evaluating the effectiveness of literacy programs, and raising awareness and advocating for the importance of literacy. By implementing these strategies, Pakistan can make significant progress in combating functional illiteracy and empowering individuals with the necessary literacy skills for personal and societal development.

It is crucial to understand that overcoming functional illiteracy is a long-term endeavor that requires sustained commitment, resources, and collaboration. By implementing these recommendations, we can significantly reduce functional illiteracy and create a more literate and empowered society.

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