

## **Students' Achievement under Literacy and Numeracy Drive (LND) Program: A Case study of Faisalabad District**

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**ABSTRACT:** The aim of the study was to analyse the students' performance under Literacy and Numeracy Drive (LND) program implemented in the Punjab province in Pakistan. The significance of the study lies in the fact that LND program was introduced to upgrade the quality of school education at primary stage. A quantitative, descriptive survey design was used to conduct this research. Population was all Public primary school teachers who teach LND subjects (Urdu, English and Mathematics) to class three in district Faisalabad. A random sampling procedure was used for selecting the participants in this study. A sample of 180 school teachers who teach any LND subject to class three was selected from six Tehsils of district Faisalabad. A questionnaire was developed on five-point Likert scale and validated by experts. Tool was modified on the basis of suggestions given by experts. Data was collected accordingly from the respondents. Descriptive statistics was used to analyse the data. It was found that the LND program has made a considerable improvement in literacy and numeracy achievements at school level and an acceptable positive betterment in students' skills. There have been notable improvements in the students' performance since the LND program is implemented.

**KEY WORDS:** Literacy; Numeracy; Attitude; Academic Achievement; Functional Skills

### **INTRODUCTION**

Since the 21<sup>st</sup> century, the quality education has been focused globally by the world and it has been preferred in the priorities of education development and improving education (Huang et al., 2011). Pakistan is a signatory to Education for All (EFA), Dakar Forum, and Millennium Development Goals (MDG) commitments. Despite these commitments and efforts, the state of

education is still unsatisfactory in Pakistan. Every 10th child in the world who does not attend school is from Pakistan. Pakistan has committed to eliminate illiteracy but there is big gap between theory and practice (Hussain, 2012).

Literacy and Numeracy skills are directly related to quality education. These skills must be achieved in the initial stage of the educational career. Successful analysis of Literacy and Numeracy skills level gives an indication about condition of quality education. All members of Dakar Framework for Action (2000) agreed to improve all such aspects of education and learning that can assure an achievement in literacy, numeracy and mandatory life skills. Literacy and Numeracy are basic skills that should be mastered in order to enhance education quality at primary level. According to Annual Status of Education Report (ASER-Pakistan) 2013, about 50% of grade 5 students can only read at the level of 2 graders in Islamabad and able to solve division problems at the level of 3 graders. Another ASER-Pakistan (2014) shows that 38% class 3 students could not match the word CHAIR with its picture. These results indicate the dangerous situation of education in the country. ASER (2015) was slightly better than previous years but still there is alarming condition in basic learning areas at national and provincial levels. At the national level, 45% class 5 children could not read Class 2 stories in Urdu / Sindhi / Pashto which was 54% in 2014. 51% class 5 children could not read sentences in the English of class 2 level and this percentage was 58% in 2014. Mathematical learning level shows that 50% class 5 children could not divide two digits division of class 2 level children which was 60% in 2014. In the province of Punjab ASER (2015) shows almost same condition of learning level of children. In 2014, 37% class 5 children could not read class two stories in Urdu and this percentage is 30% in 2015. The English learning level in 2014 was; 43% of class 5 children could not read sentences of class 2 level and it is 40% in 2015. Mathematical learning levels show that 49% of the class 5 children could not divide two-digit divisions in 2014 and this is 41% in 2015.

Because of this pathetic situation of education in the province, the Punjab government started the LND program to enhance the education quality. In Education Policy 2017, various goals have been set to improve the education quality. To meet the needs of student learning (literacy, simple calculation, problem solving and verbal expression), to achieve the basic education of universal quality by 2020, quality assurance of educational programs and quality education improvement is the main objective of the Policy 2017 (National Education Policy, 2017). Secretary of School Education Punjab took the Quality Drive (QD) Initiative to impart basic learning (basic literacy & numeracy) to the students of grade 1-3 in public schools in the subjects of Urdu, English and Mathematics. A testing system was launched under quality drive program in collaboration with Punjab Information Technology Board (PITB). To measure the progress of students, special MCQ based tests have been designed to assess the Quality of Education and performance of the students of class three.

## **FRAMEWORK OF LND PROGRAM**

LND program is working across Punjab since 2015. The main purpose of starting LND was to assess the performance of the school for quality education. Monitoring and Evaluation Assistant (MEA) evaluate students according to SLOs (student learning outcomes). SLO is a

plan that sets the curriculum and determines the quality of teaching students. For efficient measurement of progress, monitoring, and evaluation assistants (MEAs) were provided special devices. These devices have built-in applications developed by Punjab IT Board, which include a series of tests based on multiple choice questions (MCQs) related to Urdu, English and Mathematics. Question set with the collaboration of Punjab IT Board has been designed by the Chief Minister Roadmap team. It is based on SLOs that are taken from the course outline. A monthly visit of average 49,000 government schools, every day is approximately 2,400 visits and approximately 14,000 students assessed each day. Results are reported on website and district wise ranking is made on the basis of these results. A strict action by the authorities is taken against the poor result performing schools and teachers. Recently, this program is the top priority at all primary schools in Punjab.

Literacy and Numeracy Drive (LND) program was launched with the intention of enhancing basic literacy and numeracy skills of students to improve the quality of education at primary level. The main focus of this study is to present a precise view of the literacy and numeracy drive effectiveness. There is no any published research work available on LND effectiveness before this study. This is an initial work for the future researchers making this study a base for further research work. The current study was aimed to analyze the academic performance of the students through teachers and other major aspects such as their attitude towards LND practices and improvement in their functional skills as well.

All the International agencies and organizations are committed to improve the quality of education through enhancing basic literacy and numeracy skills. Different researches show that quality of education in Pakistan is very low especially at primary level. Students are facing the problems in basic literacy and numeracy skills. Government of Punjab initiated a quality enhancement program named Literacy and Numeracy Drive to improve the quality at primary level through mastery in basic literacy skills. This study aims to find the effectiveness of the program. Education always goes hand in hand with quality. Education without quality is paralyzed. It is the quality which makes educational outcomes purposeful for individuals and society. Education shapes the behavior and quality polishes that behavior to make it perfect. Quality education is a dire need for the countries who are struggling against economic, social and cultural issues to improve skills, values and attitudes towards the solutions of these issues (Fiorucci & Tuli, 2012; Zulfiani, Suwarna & Miranto, 2021). Strengthening the importance of quality, the 2006 EFA World Monitoring Report showed that denying the right of education resulted in deprivation of the child in basic learning and life skills in future. Goal 2 and 6 of Dakar Framework are about the provision of quality education and ensuring excellence in all aspects to get desired learning outputs in basic and other life skills.

In the new scenario, basic and functional skills achieved a new significance. Without the building blocks of the educational goals, the capacity of young people to qualify for higher education and jobs were equally limited (Bynner, & John, 2002). Children who do not read, write, and effectively communicate, leave early elementary school, stay unemployed or have the potential to get less skilled tasks; poverty and inconvenience to poor emotional and physical health have to do it (National Economic and Social Forum [NESF], 2009). Lack of basic skills may cause hindrance in achieving further education in next levels of the study career. Success

in higher levels of education is based on the competency of basic skills at primary level. Students who reach high school with poor literacy and mathematical skills; fail to get satisfactory results because of learning difficulties in the field they choose. This reduces their ability to involve in the class activities and further enhancing knowledge. Poor readers face difficulties to understand and express, so they stop their development in their educational work (Ballard, & Florence, 2002; Funa & Prudente, 2021).

The importance of literacy and numeracy is well defined. These skills have a completely impact on both people and society. They are radical capabilities, to provide other, more complicated skills on which the basis is provided. Literacy skills are developed through learning contexts and contents (Furniss & Green, 1993). Children who gain early reading, writing, vocabulary, and mathematical skills perform at greater level in elementary and middle schools (Duncan et al., 2007). Achievers of literacy and numeracy skills during compulsory years at school have more chances to reach level 12 and higher and higher tertiary education (Marks, et al., 2000, 2001; Harun & Manaf, 2021). Strong literacy and numeracy skills make all the students successful in school and life. Literacy is an ability of reading, writing and using written articles for different purposes, and has the ability to interact with different goals and disciplines in school and home. Effective use of mathematics to meet the general needs of life and participation in community and civil life is known as Numeracy (Govt. of Australia, 2009). Further LND enhances infectiveness and develops inquiry among students.

Literacy and numeracy are two important skills taught in school. A study by Krushelnicki (2016) reveals that all the youth have one of the biggest responsibilities of the educational system to achieve these skills. Based on the findings of Sukardjo & Salam(2020), it can be concluded that the learning outcomes of mathematics taught by the learning model of concept attainment are higher than the direct learning model. There is an influence of the interaction between the learning model and SDL on the learning outcomes of mathematics. It was found that Process Oriented Guided Inquiry Learning with Peer Feedback was effective in achieving the mathematical reasoning abilities of students in arithmetic. (Kartono & Shora (2020). Effective mathematical learning can improve the mastery of the students and also to establish self-determination, self-belief, and self regulation of the students. To improve the effectiveness of learning is through the learning environment that can attract and encourage the active involvement of the students. Mathematical learning needs an interesting medium that can be exciting to students. It also can give chance to the development of metacognitive skills and thinking skills in line with the natural characteristic of mathematics, as abstract sciences and should be exposed to thinking activities likes reasoning. (Abu Bakar & Ismail, 2020). The presence of the blended learning design has positive implications for student learning outcomes in the cognitive, affective, and psychomotor domains that can be optimally measured. (Ariawan & Divayana, 2020)

The government of Pakistan aimed to achieve education objectives by improving access, quality and governance in the province. Administrative leadership and accountability measures are helping to improve school results by regularizing the agents responsible for performance (Malik, 2011). Education was devolved to the provinces resulting in the abolition of Federal Ministry of Education under the 18th Constitutional Amendment which was passed

in 2010. Provincial governments are responsible for making plans, designing strategies, formulating policies and implementation of overall programs. The Punjab government has shown deep interest in EFA goals; therefore, the School Reform Roadmap aims to provide adequate access to quality education across the province. Major initiatives have been taken by the government across the province; Danish Schools, Punjab Educational Foundation (PEF), Punjab Education Endowment Fund (PEEF) and Punjab Education Sector Reform Program (PERSP) have been started. PERSP program is related to donor fund plans through Monitoring and Implementation Unit (PMIU), and targets to improve monitoring and quality of education. PEF mainly connects and supports the private sector education institution; although, PEEF concerns, especially with the help of the people of the southern part of the province, provide financial assistance. The goals of these programs are not described well, and there is a weak adaptation. Mechanism is not effective for the arrangements of system administrations between line departments. For the effective implementation and culturally adaptive strategy, there is urgent need for the integrity of these programs to confirm community involvement of donors and education workers.

## **OBJECTIVES**

Objectives of the study were to:

- Assess students' attitude towards LND practices.
- Find the effectiveness of LND in improving students' academic performance.
- Assess functional skills improvement of the students under LND.

## **RESEARCH QUESTIONS**

- What was the attitude of the students towards LND practices?
- How much the LND program was helpful in improving students' academic performances?
- To what extent the LND program enhanced students' basic literacy and numeracy skills?
- How much the students' functional skills have been improved by the implementation of LND program?

## **METHOD**

This study was conducted in a quantitative way stirred by central research thrust and research objectives too. The researchers used a quantitative, descriptive survey design. Accordingly, data was collected from respondents. Ethical matters were considered in collecting data.

In this study, the accessible population comprised all the teachers teaching basic literacy and numeracy subjects to class three in the 6 Tehsils of district Faisalabad. They are in the best position to furnish the researchers with the information needed to reach in depth analysis of the

LND program to meet the research objectives of this study. A sample in this study is a smaller group of elements drawn through a definite procedure from an accessible population. The elements making up this sample are those that are studied. A sample of 180 school teachers through random sampling technique was selected.

Scale for measuring effectiveness of LND program (Bilal, 2018) was used to collect data from respondents. Initially it was consisted of 32 items on five-point Likert scale. Then this scale was validated by three experts in Education. Some items were refined and some of these eliminated during the validation. This scale was further divided into three major domains, Student's attitude towards LND (7-items), Academic improvement because of LND (10-items), and Functional skills improvement of the students under LND (10-items). Higher the score on this scale indicates high level of performance.

Scale was administered to 200 respondents. Rate of return was 90% due to researcher's personal contacts with respondents. Data process and analysis usually implies a combined form of data to explain facts, classify patterns, and to develop explanations related to objective of the study. In this study, data were processed systematically after collection from different respondents. Data was analyzed by using descriptive statistics and analyzed data was presented graphically.

## RESULTS AND DISCUSSION

### Students Performance under LND Program

This section comprised of the graphs measuring the performance of the students under LND program. Different dimensions of students' performance related improvements responded and analyzed accordingly.

**Figure 1 -Students attitude towards LND practices**

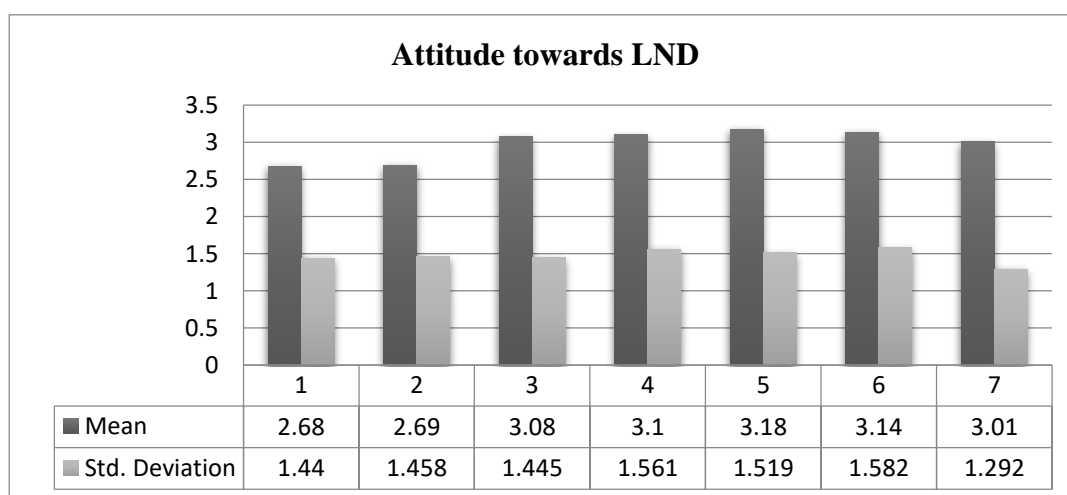


Figure 1 shows a series of statements about the Students attitude towards LND practices. Figure reveals the information of 180 respondents; mean value, standard deviation and rank on the basis of responses on the statements. Responses on attitudes towards reading and learning generally depict 483 weighted score, 2.68 mean value, 1.440 std. deviation and ranked order 7 in the figure. Responses on students willingly participates in the LND practice test

depict 484 weighted score, 2.69 mean value, 1.458 std. deviation and ranked order 6 in the figure. Responses on Students enjoy the LND practice depict 555 weighted score, 3.08 mean value, 1.445 std. deviation and ranked order 4 in the figure. Responses on students are appreciated and awarded on the basis of LND test results depict 558 weighted score, 3.10 mean value, 1.561 std. deviation and ranked order 3 in the figure. Responses on Monthly test on Tab by MEA is more effective than teacher made tests depict 573 weighted score, 3.18 mean value, 1.519 std. deviation and ranked order 1 in the figure. Responses on Students have access to LND apps at their own mobiles at home depict 566 weighted score, 3.14 mean value, 1.582 std. deviation and ranked order 2 in the figure. Responses on All the students equally participate in monthly test on tab by MEA. depict 541 weighted score, 3.01 mean value, 1.292 std. deviation and ranked order 5 in the figure.

**Figure 2 -Academic improvement because of LND**

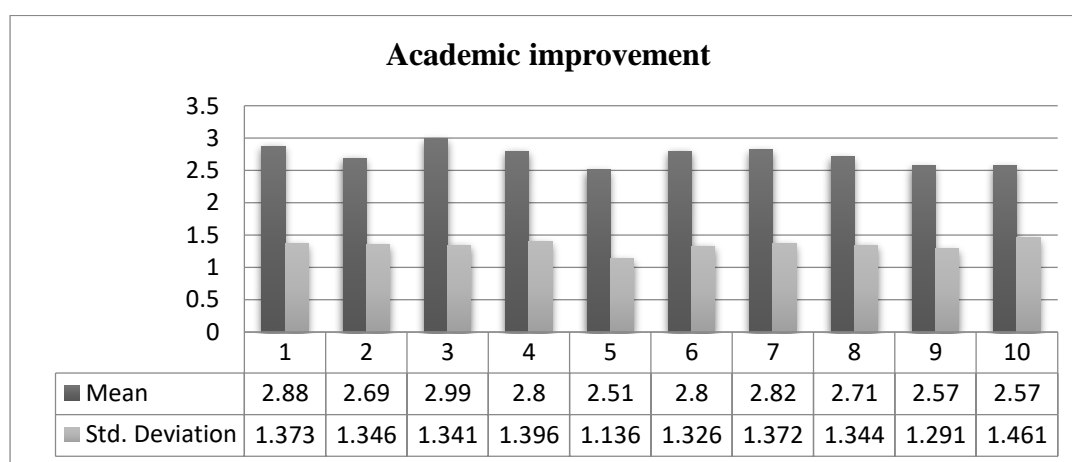


Figure 2 shows a series of statements about the academic improvements in result of LND program. Figure reveals the information of 180 respondents: mean value, standard deviation and rank on the basis of responses on the statements. Responses on performance of students at a higher level as a result of LND depict 518 weighted score, 2.88 mean value, 1.373 std. deviation and ranked order 2 in the figure. Responses on attitudes towards reading and learning generally depict 485 weighted score, 2.69 mean value, 1.346 std. deviation and ranked order 6 in the figure. Responses on vocabulary improvement depict 538 weighted score, 2.99 mean value, 1.341 std. deviation and ranked order 1 in the figure. Responses on proficiency in literacy and numeracy skills help the students in academic years depict 504 weighted score, 2.80 mean value, 1.396 std. deviation and ranked order 4 in the figure. Responses on LND program supports student learning and achievement of literacy and numeracy depict 452 weighted score, 2.51 mean value, 1.136 std. deviation and ranked order 8 in the figure. Responses on students understand and can do in literacy and mathematics depict 504 weighted score, 2.80 mean value, 1.326 std. deviation and ranked order 4 in the figure. Responses on Classroom assessments support student learning and achievement depict 507 weighted score, 2.82 mean value, 1.372 std. deviation and ranked order 3 in the figure. Responses on LND program is effective for all the students equally in the class depict 487 weighted score, 2.71 mean value, 1.344 std. deviation and ranked order 5 in the figure. Responses on three subjects (Urdu, English & math) are prepared well but other subjects ignored depict 462 weighted

score, 2.57 mean value, 1.291 std. deviation and ranked order 7 in the figure. Responses on LND practice is helpful in understanding other subjects depict 462 weighted score, 2.57 mean value, 1.461 std. deviation and ranked order 7 in the figure.

**Figure 3 -Functional skills improvement of the students under LND**

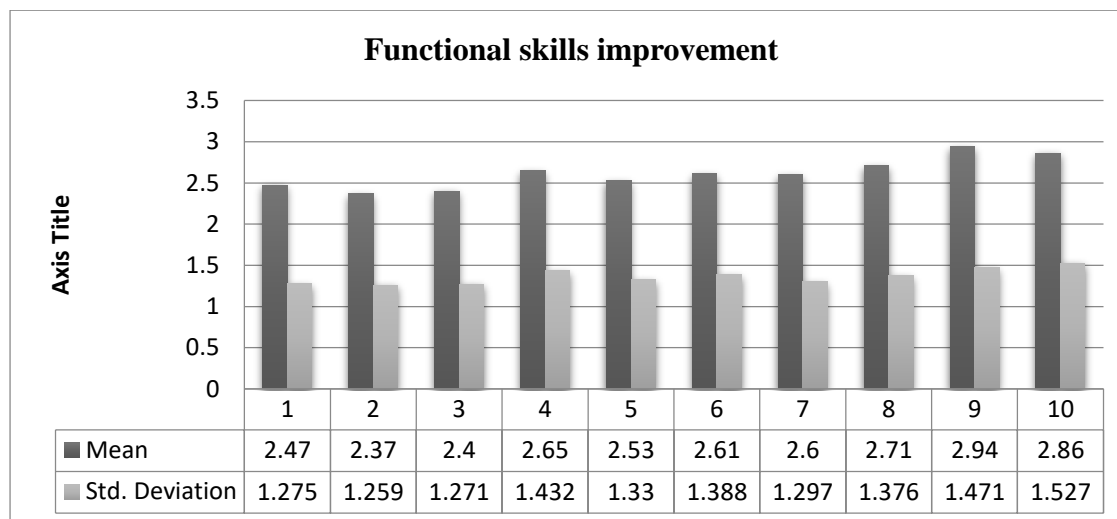


Figure 3 shows a series of statements about the Functional skills improvement of the students under LND in result of LND program. Figure reveals the information of 180 respondents: mean value, standard deviation and rank on the basis of responses on the statements. Responses on Increased and improve daily life reading, writing and mathematical skills depict 444 weighted score, 2.47 mean value, 1.275 std. deviation and ranked order 8 in the figure. Responses on Improved self-confidence depict 426 weighted score, 2.37 mean value, 1.259 std. deviation and ranked order 10 in the figure. Responses on educational aspirations depict 432 weighted score, 2.40 mean value, 1.271 std. deviation and ranked order 9 in the figure. Responses on Conceptual level of students build up depict 477 weighted score, 2.65 mean value, 1.432 std. deviation and ranked order 4 in the figure. Responses on LND practice improved student's basic literacy and numeracy skills depict 455 weighted score, 2.53 mean value, 1.330 std. deviation and ranked order 7 in the figure. Responses on Students are excited about attempting LND assessment tests on TAB depict 469 weighted score, 2.61 mean value, 1.388 std. deviation and ranked order 5 in the figure. Responses on Students feel nervousness while attempting LND test in front of MEA depict 468 weighted score, 2.60 mean value, 1.297 std. deviation and ranked order 6 in the figure. Responses on Builds up student's exposure depict 488 weighted score, 2.71 mean value, 1.376 std. deviation and ranked order 3 in the figure. Responses on LND practices are motivational tools to motivate the students towards learning depict 530 weighted score, 2.94 mean value, 1.471 std. deviation and ranked order 1 in the figure. Responses on Produce greater encouragement of children depict 515 weighted score, 2.86 mean value, 1.527 std. deviation and ranked order 2 in the figure.

Education is the most important ingredient for the development of a nation. It plays a vital role in the progress of nations and without it we inevitably fail to form an effective state. It also raises the productivity of individual citizens. It is a public right of the citizen of any country to get free education. However, the situation of education in Pakistan is not very encouraging.



Primary education is considered very important in national development. Many countries would have been started different programs to increase the achievement level of universal primary education. Pakistan is also struggling for universal quality primary education which is necessity of the time. This study is an analyzing view of the most recent program LND in Punjab to improve the quality of basic education. Figure 1 was analyzed under the objective of students' attitude towards LND practices. It was found that students' attitude towards LND practices is at different levels. According to these findings, Monthly test on Tab by MEA is more effective than teacher made tests dimension is at the highest ranked no.1 (=3.18), attitudes towards reading and learning generally dimension is at the lowest rank 7 (= 2.68). The other dimensions are in between these two values. It was analyzed that overall students' attitude towards LND practices is at moderate level (=2.98). This shows that students have a positive attitude towards LND practices at moderate level. Figure 2 was analyzed under the objective of students' academic improvement as a result of LND program. It was determined that students' improvements because of LND program are at different levels. According to these findings, vocabulary improvement dimension of the students is at the highest ranked no.1 (=2.99), the LND program supports student learning and achievement of literacy and numeracy is at the lowest rank 8 (= 2.51). The other dimensions are in between these two values. It was analyzed that overall academic improvement is at moderate level (=2.71). This shows that LND program has a moderate positive effect on students' academic improvements. Figure 3 was analyzed under the objective of personality and skills improvement of the students under LND program. It was found that personality and skills improvement of the students under LND program are at different levels. According to these findings, LND practices are motivational tools to motivate the students towards learning dimension is at the highest ranked no.1 (=2.94), the Improved self-confidence dimension is at the lowest rank 10 (= 2.37). The other dimensions are in between these two values. It was analyzed that overall functional skills improvement of the students is at moderate level (=2.61). This shows that LND program positively improved the functional skills of the students at moderate level.

## CONCLUSION

Incorporating the concept of literacy and numeracy to quality education in the study to analyze the LND provisions helps understand the needs and requirements of school education in the district. Many important insights were revealed from the data which was acquired from respondents through questionnaire. It was found that the education provided to the primary level students under LND program helps students to develop knowledge and skills in improving the quality of school education system. Results of the study show that Literacy and Numeracy Drive (LND) program has considerably improved the students' performance in all the three dimensions under consideration in the study. This program made a positive change in students' attitude towards the literacy and numeracy practices. It enhanced the academic performance of the students in Urdu, English and Mathematical areas and helped the students in other class level subjects. Students' functional skills were also improved, and they are more likely to practice these skills in their daily routine life. Hence LND practice is amongst the good available practices to make the students proficient in basic skills and a solid step towards quality education at primary level.

## RECOMMENDATIONS

1. In order to improve the quality of education, there is a big need to improve the monitoring system in the education sector.
2. The evaluation system needs to be improved and effective according to international standards.
3. LND should be expanded to other levels/classes at primary schools.

Findings of this study are helpful for all the stakeholders to make policies and implement strategies while keeping in mind the status of the LND program. In addition, this study can encourage strategic inquiries about future efforts in educational research.

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