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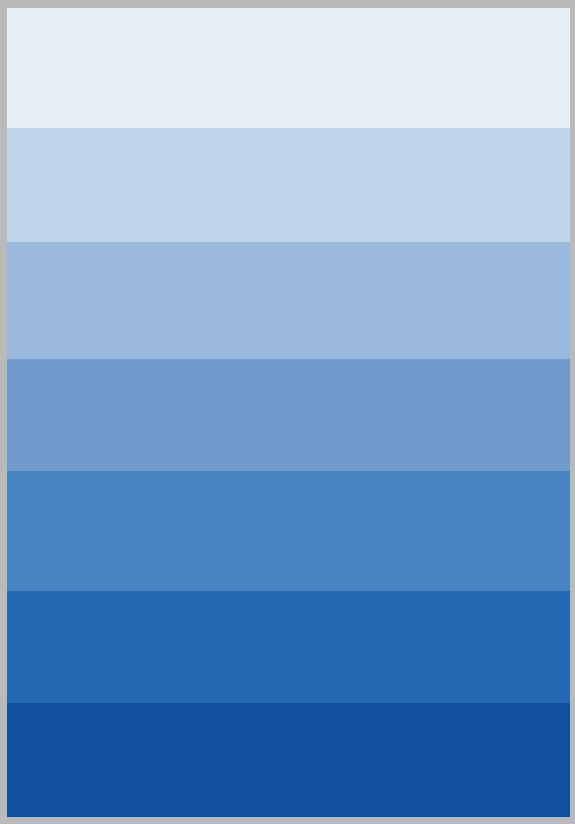

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Content Page

A SURVEY OF THE PHYSICAL RESOURCES NEEDED FOR THE PROPOSED THOUSANDS NATIONAL SCHOOLS IN SRI LANKA TO IMPLEMENT THE CURRICULUM

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ABSTRACT

This study aims to identify the available and required physical resources in 1000 National schools with secondary grades to enhance. Additionally, the study aims to propose recommendations for physical resource standards necessary for the forthcoming curriculum, scheduled for introduction in 2023. The random sampling technique was employed to select a sample of 363 schools from three provinces in Sri Lanka. Data collection utilized a questionnaire survey method, while analysis involved interviews and documentary analysis. The study findings highlighted the inadequacy of existing infrastructure, sanitary facilities, library facilities, and teaching learning facilities such as laboratories for Science O/L & A/L, Technology subjects, as well as rooms & equipment for Aesthetics subjects, among others. Notably, none of the investigated schools possessed adequate physical resources conducive to delivering a curriculum aligned with 21st-century education. Furthermore, only 27% of principals were aware of the new educational reforms. The recommendations derived from of the present study were disseminated to both government and schools. Suggestions include the development of a programme to educate all stakeholders within the education system about the upcoming curriculum reforms. Moreover, a conceptual paper outlining the minimum physical resource requirements and standards necessary for implementing the new curriculum in line with 21st-century standards should be prepared and presented. The physical resources of national schools should be upgraded to align with 21st-century education, needs.

Education administrators at provincial or regional levels principals, teachers, and students should be provided with training sessions or seminars on resource and technology utilization strategies to facilitate effective curriculum implementation. It is imperative for education managers and administrators to allocate funds for the maintenance of physical resources, thereby enhancing the efficiency of the teaching and learning process. As part of recommendations to schools, efforts should be made to raise awareness among teachers and students regarding physical resource management. Measures should be taken to identify scarce and surplus resources and address the school's needs by involving non-governmental organizations, friends, alumni, donors, and community members rather than solely relying on government infrastructure provision The principal should take proactive roles in these endeavors.

Keywords: 21st-century education, Physical Resources, Curriculum, Implementation

BACKGROUND OF THE STUDY

Education serves as a platform upon which the economic, social, and political prosperity, of any nation is built. Investment in education is instrumental in fostering sustainable development, promoting peace, addressing regional disparities, reducing poverty, and enhancing human capital development. Schools are pivotal in shaping the future of a nation by nurturing the holistic development of its future citizens. The presence of adequate human and physical resources in schools is imperative for the effective functioning of the school system. School facilities encompass significant that directly and indirectly influence the learning environment. It is essential that the essence of education is centered around meeting the needs of students rather than solely relying on available resources A growing body of research has found that school facilities can significantly impact both teacher and student outcomes. In terms of teachers, school facilities influence teacher recruitment, retention, commitment, and effort. For students, school facilities affect health, behavior, engagement, learning, and growth in achievement. Consequently, researchers generally assert that without adequate facilities and resources, it becomes exceedingly challenging to effectively cater to large numbers of children with diverse needs. Akinsanya, (2010), though not included in the reference list emphasized the importance of educational resources. He had stated that the success of any school depends on the sufficient provision and utilization of physical and material resources, among other factors, as they foster effective teaching and learning. Similarly,

Usman (2007) highlighted the central role of educational resources in the educational process and he noted that these resources significantly contribute to the attainment of educational objectives and goals by promoting effective teaching and learning. Educational administrators should prioritize allocating funds for resource maintenance and the provision of physical resources essential for educational services, thereby enhancing the quality of teaching and learning.

The curriculum is the international instructional agenda of the school and a comprehensive plan for the school's educational Programme to develop improved manpower to fulfill the needs of the dynamic society. The nature and quality of the curriculum offered in a school are closely related to the available resources and how well they are used. Therefore, it is believed that having adequate physical resources in a conducive school environment affects curriculum implementation. General education in Sri Lanka encompasses primary (grades 1 – 5) and secondary education (grades 6 – 13). General education is mainly provided through the public sector with over 95 percent of students enrolled in state schools. Currently, about 4.1 million students are attending 10,162 government schools. Around 200,000 students are enrolled in private and international schools and Programmemes. As Sri Lanka’s premier agency for educational research and curriculum and teacher development, the National Institute of Education (NIE) aims for the design and development of a world-class curriculum that ranks foremost in Southeast Asia.

The general education system needs to be better oriented to the production of socio-emotional skills, such as problem-solving, resilience, achievement motivation, control, teamwork, confidence, initiative, and ethics (PRACTICE) that are important for students to become good citizens in adult life and to be productive in the modern global economy. Currently, the curriculum, teaching and learning, and assessment in Sri Lanka are not adequately focused on the promotion of socio–emotional skills. The general education system needs to be developed to reflect modern international trends which seek to increase both learning outcomes and the socio–emotional skills of students. However, the country is currently passing a period that requires comprehensive reforms of its education system to boost and sustain economic growth and social development. Therefore, the priority has been placed on transforming the general education curriculum and related systems to the next level and coping with the challenges in the new millennium, such as globalization, sustainable development, peace, and global citizenship. Sri Lanka's primary education is impressive, but the secondary education quality is challenging due to the competitive job market, increasing job opportunities, and higher pay. Good grades can lift students and families out of poverty. This research topic focuses on the importance and issues related to secondary education. Sri Lanka is prioritizing the development of its human resources to uphold the knowledge economy. The 2019 – 2022 government's Vistas of Prosperity and Splendor aims to design and nurture knowledge-based human capital for the 21st century.

Educational policy reforms include increasing the number of National schools with all physical and human resources to 1000, and introducing an innovative curriculum and authenticated learning and assessment systems to ensure generic skills acquisition for 21st-century children by 2023. The prime objective of education is to provide equal access and high-quality educational opportunities for all school children.

Under these reforms, three National Schools will undergo enhancements, bringing the total count to 1000, while the National Institute of Education (NIE) and State Ministry of Education Reforms (SMoER) collaborate to ensure equal distribution of physical resources among schools minimizing discrepancies. The government plans to allocate Rs. 98.25 billion. on the project. The forthcoming curriculum reform in Sri Lanka is due in 2025. This will be a collaborative effort involving the National Institute of Education, State Ministry of Education Reforms, Promotion of Open Universities and Distance Learning, and Ministry of Education. The objective is to revamp schools into centers of innovation and creativity, preparing students for the 21st century and the 4th Industrial Revolution. To facilitate the successful implementation of the new curriculum, recommendations regarding physical resource standards are vital alongside planned learning opportunities. NIE aims to implement the new curriculum in 2023, aligning with the requirements of the 21st-century and equipping students for the fourth industrial revolution. Emphasizing authentic learning, project-based learning, inquiry-based learning, and self-directed modules

organized on a semester basis, the curriculum seeks to foster a conducive learning environment. The study outlined herein seeks to assess the current state of physical resources in schools and the required resources for the new secondary curriculum. Four primary questions will be addressed:

1. What physical resources are currently available?
2. How are these resources distributed?
3. What additional resources will be required?
4. What standards can be recommended for the new curriculum?

Objectives of the study

The study aims to identify available and required physical resources in schools and make recommendations on physical resource standards for the new curriculum implementation in 2023, with specific objectives also included.

Specific Objectives:

1. To identify the physical resources available for implementing the secondary curriculum in the schools.
2. To investigate the distribution of physical resources among schools
3. Identify the physical resources necessary to effectively implement the new secondary curriculum in the schools.
4. To make recommendations on the physical resource standards required for the proposed new curriculum to be implemented in 2023.

LITERATURE REVIEW

Physical resources in education encompass structures, machinery, raw materials, vehicles, and tools that facilitate activities and processes, ultimately influencing the quality of schools and contributing to their central goals. These physical resources within educational systems include classrooms, staff offices, vehicles, health centers, libraries, and laboratories. They are vital for meeting educational demands and reinforcing the pivotal role education plays in enhancing people's quality of life. Various authors have defined physical resources diversely, ranging from didactic materials, learners' books to teachers' guides, and facilities utilized in executing educational policies and programs.

A well-equipped school environment is paramount for the educational system, as it fulfills the physical and emotional needs of both staff and students. It's widely acknowledged that quality education relies significantly on physical facilities, which have been found to correlate with students' academic performance (Yara & Otieno, 2010). Inadequate infrastructure can impede curriculum implementation in Technical and Vocational Education and Training TVET institutions (Not in reference list Hooker et.al. et al. 2011). Physical resources not only foster a conducive environment for teaching and learning, but also facilitate the development of skills through extra-curricular activities, boost teacher motivation and retention, mitigate vices, truancy, and drop-outs, and provide space for researchers. Secondary education is a focal point for education policymakers

and researchers worldwide, as it serves as a bridge between primary education and higher education as well as the labor market (UNESCO, 2011). Developed countries particularly value both, physical and human resources, recognizing their pivotal role in qualitative education development (Adeogun, 1999).

The curriculum serves as a comprehensive framework of learning experiences and outcomes offered to students, aiming to achieve educational objectives. It encompasses identified subjects and disciplines and is grounded in a shared vision, mission, policies, traditions, and ethos. The curriculum serves as a roadmap for learning, focusing on knowledge and skills that are suitable for the learning process. As defined by Mkpa (1987), it represents a systematic reconstruction of knowledge and experience for continual growth and personal social competence. As Alebiosu (2005) explains, curriculum dictates the educational system's affairs.

Curriculum implementation entails the dissemination of structured learning experiences, provision of resources, and actual execution in classrooms (Ivowi, 2009). It involves the learner's active engagement with the content and materials to acquire the necessary skills, attitudes, and abilities (Mkpa and Izuagba, 2009), thereby maximizing learning outcomes by guiding the learners through activities and promoting new behaviors and approaches.

The current curriculum policy in Sri Lanka emphasizes a revision or revision or reform every eight years, yet a full reform has not been implemented for twelve years. However, a full reform has not been implemented for twelve years. Efforts have been initiated by organizations such as the National Institute of Education, State Ministry of Education Reforms, Promotion of Open Universities, and Distance Learning have launched basic actions to modernize the school curriculum. The forthcoming Curriculum Reforms aim to equip children to confront the challenges of the 4th Industrial Revolution and possess 21st-century skills. These reforms prioritize higher-order thinking skills, multiple intelligences, technology and multimedia integration, multi-literacy, blended learning methods, and authentic assessments, rejecting traditional teacher-centered approaches and passive learning based solely on textbooks, paper, and exams. Furthermore, the proposed reforms aim to instill learning skills, life skills, literacy skills, civic education, and character education, transcending the traditional 3R model. Key features of the 21st-century curriculum include outcome-based, integrated, module-based, project-based, research-based, and collaborative learning opportunities, leveraging technology, multimedia, authentic learning experiences, blended learning, innovation, and multi-literacy.

The Sri Lankan general education system should be pivoted towards empowering students with these essential skill areas.

Moreover, there exists an unequal distribution of resources among provinces and schools in Sri Lanka, with rural areas typically having lower infrastructure facilities and lacking adequate laboratory facilities for teaching science and Mathematics. Regional disparities in resource availability within the education sector remain significant. (Kularathne, and Kodithuwakku, 1991, Chandrakumara, 2015 and Baker, 1988)

To ensure effective curriculum implementation, community colleges must provide adequate physical facilities and optimize their utilization. It's imperative to recognize that quality education is closely intertwined with physical facilities, which serve as essential predictors of students' academic achievements. Educational facilities, including classrooms, furniture, libraries, laboratories, and instructional materials, significantly contribute to academic success.
Adeboyeje (1999) defines physical facilities as essential materials necessary for the effective functioning of the school system to be accomplished. Bell and Rhodes (1996) underscore the importance of maximizing available facilities to enhance learning opportunities. Additionally, Adeyemi(1989) discovered a positive correlation between students' performance and the availability and rate of utilization rates of human and physical resources.

The primary objective of education is to ensure equal access to high-quality educational opportunities for every school child. of a proposed national curriculum in Sri

Lanka is imperative. Therefore, based on the points highlighted in the literature review, research on the physical resources necessary for the successful implementation of a proposed national curriculum in schools in Sri Lanka is imperative.

This research entails a comprehensive assessment of available resources, alignment with curriculum requirements, infrastructure accessibility and equity, budget constraints and resource allocation, teacher training and capacity development, sustainability and maintenance, as well as community engagement and shareholder involvement. Moreover, the role of digital infrastructure in supporting the proposed curriculum is also crucial. Identifying gaps in the evidence regarding the impact of physical resources on student learning outcomes is another key aspect of this research. Furthermore, this study aims to evaluate research-based policy recommendations and implementation strategies to address the gaps in physical resource provision. Addressing these gaps will yield valuable insights for policymakers, educators, and stakeholders involved in the design and implementation of the proposed National Schools and Curriculum in Sri Lanka.

METHODOLOGY

The selection of research methodology is guided by the research objectives, necessitating careful consideration of whether the research is exploratory or confirmatory in nature. It is crucial to choose appropriate methods, such as qualitative data collection and analytical techniques, accordingly. In this study, the Survey Research Methodology was employed to collect specific information from respondents and analyze the available and required physical resources in schools for the implementation of the new curriculum in 2023. The research design offered a clear framework for conducting the study, bridging conceptual research problems to empirical investigation. Both quantitative and qualitative data were collected and analyzed, with qualitative data obtained through telephone interviews as part of the qualitative research technique.

Mixed research methods, as defined by John W. Cresswell, involve integrating qualitative and quantitative data through established methodologies and procedures, blending qualitative and quantitative data utilizing a hybrid framework, or employing a broad approach grounded in a comprehensive research method, theory, or philosophy. This research adopted a comprehensive and unique mixed research method, drawing upon six mixed methods studies outlined in John W. Cresswell's book, “Education Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research. The convergent parallel/concurrent design was utilized to assess both

the available and required physical resources in schools and make recommendations on the necessary physical resource standards for the new curriculum implementation. Data collection occurred through both quantitative and qualitative methods concurrently or independently, and the findings were subsequently compared to fulfill the research objective and aims

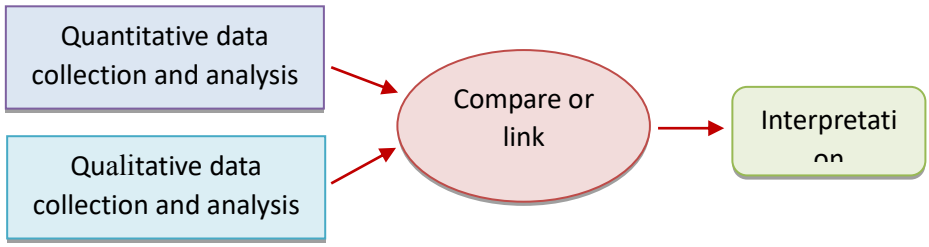

Figure 1: *Convergent parallel/ Concurrent design*

Source: Creswell, 2012, Planning conducting and evaluating, quantitative and qualitative research)

The study used the Survey Research Methodology to analyze the physical resources in schools for the new curriculum implementation in 2023. It used a mixed method, including telephone interviews, convergent parallel/concurrent design, explanatory sequential design, exploratory sequential design, embedded design, transformative design, and multiphase design. The aim was to increase the number of national schools in Sri Lanka, which currently has 10,000 schools. Three provinces (Western, Central, and Southern) were chosen for data collection, and a sample size of 599 schools in three provinces was calculated using Solvin's formula.

A sample of 363 schools was selected using proportional stratified random sampling. The study utilized both qualitative and quantitative research methods to gather data on the required resources for a new curriculum in the 21st century. Data was collected through interviews, questionnaires, and documentary analysis from curriculum developers, subject directors, teachers, and documents. The choice of data collection method depends on the research objectives, practicality, and resource limitations. In this study, data was collected through questionnaires from principals of three provinces. The field study was conducted in three phases: interviews with curriculum developers, questionnaires prepared for 363 randomly selected schools, and field visits to 10 selected schools. Interviews with principals and observation papers on the physical resources required for the new curriculum were conducted. Documentary analysis was done using documents issued by various ministries and institutes. The total number of schools used for data collection was 373.

This study used both qualitative and quantitative data analysis methods, with research questions as a guide. Quantitative data was analyzed using basic statistical methods. Thematic-based qualitative analysis was used to analyze responses from interviews, questionnaires, and documents. Teachers' data was collected through online questionnaires, while curriculum developers' data was collected through telephone interviews. Demographic data was analyzed considering school type, Educational Zone, nature, and area (Rural/Urban).

FINDINGS

The United Nations Educational, Scientific, and Cultural Organization (UNESCO) is actively working to promote the rethinking of education in the twenty-first century due to the need for new skills and talents to prepare individuals for the future as technical and social landscapes constantly change.

In line with that, new curriculum reforms are underway to strengthen globally empowered education, focusing on the growing trend of using technology and digital resources to provide educational opportunities and resources to people around the world, reaching out to a larger audience with the rise of technology, providing new opportunities and learning skills.

Therefore, it is important to aware the principals on new curriculum reforms, then they know what the physical resources are, needed for better implementation of new reforms.

According to the collected data, only 27% of the 363 principals are aware of the new curriculum reforms, 66% have some awareness, and 7% are completely unaware.

According to the data, 33.7% (27) of the 27% know curriculum reforms are in the Central Province, 21.4% (21) are in the Southern Province and 44.9% (44) are in the Western Province. Furthermore, 43.8% (105) of the 66% of principals who have some awareness of curriculum reforms are in the Central Province, 34.6% (83) are in the Southern Province and 21.7% (52) are in the Western Province. Among the principals who are

completely unaware, 12.0% (3) represent the Central Province, 4.0% (1) in the Southern Province, and 84.0% (21) in the Western Province.

As a result, it was discovered that the western province had a higher level of awareness than the other two provinces. Accordingly, compared to the other two provinces, the Western province's principals have received a kind of awareness campaign.

To identify the physical resources available for implementing the secondary curriculum in the schools & to investigate the nature of physical resource distribution between schools.

For these two objectives, quantitative data was collected through the questionnaires of the principals, and qualitative data was also collected through interviews with the principals and school observations, and the data were analyzed quantitatively and qualitatively. The existing nature of physical resources was gathered and examined among the schools surveyed in the central, southern, and western provinces. As a result, upon examining the infrastructure, according to the information provided by the principals of the schools surveyed.

- More than 75% of the water facilities in both 1AB and 1C schools in the studied schools are adequate.
- In terms of provinces, the Western Province's water facilities were found to be less adequate than those in the Southern and Central Provinces.

- More than 85% of the 363 schools have electricity, and it was discovered that electricity facilities in the 1AB schools in the Western Province and the 1C schools in the Central Province are insufficient.
- It was also found that the poor electricity facilities in the 1C schools in the central province were caused by the schools' geographical position, as schools are located in mountainous areas.
- Furthermore, 27% of the 363 schools had insufficient telephone facilities, while 9.6% had no telephone facilities.
- It was discovered that 43.5% of 1AB schools 14.6% of 1C schools in Western province, and 12.1% of 1C schools in the central province do not have any telephone facilities.
- 62.8% of the schools examined have inadequate internet access. When it comes to school types, 75.5% of 1AB schools and 57.9% of 1C schools have inadequate internet access.
- 18.7% of the schools studied have no Internet access at all, whereas 16.7% of 1AB schools and 19.5% of 1C schools have no Internet connections at all.
- It was revealed that 75.6% of 1AB schools and 68.1% of 1C schools in Western Province, 41.5% of 1C schools in Southern Province, 23.5% of 1AB schools and 14.0% of 1C schools in Central Province do not have internet facilities at all.

In terms of sanitary facilities.

- Based on the information provided by the principals about sanitary facilities, more than 74% of all schools do not have adequate toilet facilities.
- 77.5% of 1AB schools and 73.2% of 1C schools do not have enough toilet facilities.
- At the provincial level, it was also revealed that sanitary facilities in both the 1AB schools and 1C schools in the central province are not sufficient compared to Western and Southern provinces.

When considering the resources related to the teaching and learning process in the classroom,

- According to the principals of 1AB schools that are already national schools, G.C.E. (O/L) Science Laboratories in nearly 24% of schools and Technology Laboratories in nearly 36% of schools have sufficient laboratory space and equipment.
- There is no location or necessary equipment for multipurpose rooms for practical and technical skills in nearly 25% of schools, G.C.E. (A/L) Science laboratories in 18% of schools, and geography laboratories in nearly 33% of schools.
- It was revealed that approximately 5% of the schools investigated in this study have equipment but no space to run laboratories for G.C.E. (A/L) and O/L science, A/L

technology, Geography G.C.E. (A/L), and Practical Technology Skills (PTS) rooms.

It was discovered that;

- about 56% of the 1C schools designated as new national schools have a place and equipment for O/L Science Laboratories, and more than 60% of schools have a place and equipment for Technology Laboratories and Science laboratories for A/L.
- more than 82% of the schools that were surveyed did not have a place or equipment for science laboratories for A/L and multipurpose rooms for Practical and Technical skills.
- nearly 8% of the schools had laboratory equipment but no place for O/L Science Laboratories.
- More than 80% of principals in 1AB and 1C schools stated that their schools do not have enough space or instruments/equipment for Oriental music, western music, dancing, art and drama, and Theatre, all of which are necessary for aesthetic disciplines.
- The principals reported that 94% of their schools did not have enough spaces or instruments/equipment for Western music, while 75% of schools did not have enough for dancing.

In terms of library facilities,

- Approximately 75% of 1AB school principals reported that library facilities are insufficient, and roughly 3% of

schools do not have a place or reading materials to operate the library.

- Almost 67% of 1C school principals reported that library facilities are inadequate.

And when asking the principals about other resources available in the school,

- 93.1%, 83.3%, and 78.4% of the 1AB schools evaluated, respectively, do not have any space or essential equipment for social sciences rooms, English resource centers, and GYM.
- Home science and Language Labs are insufficient in 76% of schools, Agriculture Rooms and Computer Labs are insufficient in 85% of schools, and Smart Classrooms are insufficient in 93% of schools.
- 95.8% of 1C schools have no place or equipment for social sciences rooms, 49.4% of 1C schools have no place or equipment for agriculture rooms, 67.4% of 1C schools have no place or equipment for English resource centers and 86.6% of 1C schools have no place or equipment for GYM.
- There is insufficient space and equipment for home science rooms in 69.7% of the 1C schools, agriculture rooms in 43.3% of the 1C schools, English resource centers in 22.6% of the 1C schools, computer labs in 4% of the 1C schools, smart classrooms in 5.6% of the 1C schools, and language labs in 21.1% of the 1C schools.

This study investigated the facilities required in the classroom to keep the learning and teaching process alive after enquiring about the physical resources available in the school. As a result, upon analyzing the information obtained from the principals.

- It was discovered that 71.1% of the 363 schools have insufficient electricity in their classrooms, 73.5% of the 102 1AB schools have insufficient electricity in their classrooms, and 70.1% of the 261 1C schools have insufficient electricity in their classrooms.
- Out of 363 schools, only 13.8% of the schools have wired internet facilities in the classrooms, and 11.6% of the schools have insufficient internet facilities.
- Further, 86.2% (313) schools do not have wired internet facilities in their classrooms at all.
- It was also revealed that most of the schools that do not have wired internet facilities in the classrooms are 1C schools.
- In terms of wireless internet access, it was discovered that just 5 schools out of 363 have internet access in their classrooms, with 2 being 1AB schools and 1 being 1C schools.
- Multimedia Projectors with Laptop/Desktop Computers are not available in the classrooms of 55.9% of the schools, including 52.9% of the 102 1AB schools and 57.1% of the 261 1C schools.

- According to the information provided by the principals of the 363 schools studied, only 1 out of 102 1AB schools and 5 out of 261 1C schools have an adequate Interactive Board/Smart Board, while 51.1% of 102 1AB schools and 29.5% of 261 1C schools said the existing Interactive Boards/Smart Boards are insufficient.
- It was also discovered that 48.0% of 102 1AB schools and 68.6% of 261 1C schools do not have any Interactive Boards/Smart Boards in their classrooms.

Identify the physical resources necessary to implement the new secondary curriculum in the schools.

To achieve this objective, quantitative data were collected through questionnaires of principals, telephone interviews with Ministry of Education officials, curriculum developers of NIE, and reports/papers issued by the National Institute of Education (NIE), the ministry, and other institutions. Qualitative data was also collected and analyzed to reveal information. The National Curriculum Framework has made the following recommendations regarding the physical resources required for the reforms to be implemented smoothly.

- Establishment of innovation Hubs for students to acquire hands-on skills.
- Science lab, Design and Technology lab, and other labs to be updated with upgraded infrastructure, lab resources, chemicals, enough lab equipment, etc.

- Creation of spaces, places, and opportunities for the children to engage in activities related to improving their financial literacy, financial discipline, entrepreneurship, and work-related skills.
- Enhancing facilities and platforms for the students and teachers to engage in blended learning, online learning, and other innovative pedagogical practices.
- Equipping the schools with necessary ICT infrastructure, electricity, and connectivity to ease the teachers of unnecessary paperwork.
- An elaborate ICT masterplan
- Limiting the number of students in a classroom to 35
- Establishing a dedicated center to coordinate community service projects and to identify local resources.
- the traditional physical arrangements of the classroom that have been in existence without any change for decades should be modernized considering the dynamic need for the new curriculum vision.

Also, the analysis of information gained through interviews with curriculum developers at the National Institute of Education and some Ministry of Education officials revealed the following recommendations on the physical resources needed to implement the new curriculum in schools.

- Technologies should be made available in the classroom to connect students with the globe.

- Excellent wireless internet connectivity throughout the school
- Large video screens
- Software
- Maker Labs, Da Vinci Studios (labs that are set up to accommodate both science and art projects) and incorporate areas for "wet and messy" projects.
- Art and craft room, music room, store and supply room, museum, auditorium, and cafeteria.
- A modern classroom should be well equipped.
- The traditional classroom environment has been transformed into a laboratory environment.
- Well-equipped Science laboratories

Furthermore, the findings of the Resilient Educator website's recommendations for implementing appropriate education in schools for the 21st century are shown below.

- Personal computers with Wi-Fi
- Handheld devices
- Interactive whiteboards
- Digital cameras
- Electrical outlets
- Unique desk arrangements
- Equipped teacher podiums

Also, the State Education Technology Directors Association revealed the following recommendations as some of the core and additional elements needed to make schools a 21st-century learning environment.

Core Components

- Teacher Laptop & Productivity Tools
- Presentation Device - Collaborative Learning System (Interactive Whiteboard), LCD or Plasma TV
- Projector (if needed for the presentation device or collaborative learning system)
- Learner Response Devices for Formative Assessment & Individualized Instruction
- Document Camera
- Digital & Video Camera
- Robust Software & Digital Content
- Printer
- Company Led Training (PD) on Technology Functionality

Additional Elements to Consider Based Upon Location and Curricular Goals

- Mobile Learning Lab or Centralized Computing Stations
- Webcam for Teacher Computer
- Flash drives for each Student
- Audio System
- Courseware and Content Aligned to Standards and Curricular goals.

- Safe and Secure Communication & Community Building Tools with Web 2.0 Functionality for Teacher and Administrator
- Cadres as well as Home/School Connections
- Formative Assessment for Individualization of Learning
- Student, Classroom & School Data Collection, Management & Reporting

According to the facts stated previously, a school with internet facilities and technology is required to implement a 21st-century education in the school

CONCLUSIONS

In this study, the conclusions reached about each objective are analyzed below

To investigate the nature of physical resource distribution between schools and to identify the physical resources available for implementing the secondary curriculum in the schools.

To achieve this objective, the data collected from the principals were analyzed and conclusions were drawn. The conclusions identified were as follows.

- Only 27% of principals of the schools studied are aware of the new educational reforms.
- Out of 27% of the principals who are aware of the education reforms, 33.7% of the principals are in the Central Province, 21.4% are in the Southern Province, and 44.9% are in the Western Province.
- The following conclusions can be drawn about the existing physical resources for the implementation of new curriculum reforms among 1AB and 1C schools in the Western, Southern, and Central Provinces.
- More than 75% of 1AB and 1C schools have sufficient water facilities.
- However, in comparison to the student population in western province schools, the adequacy of water facilities is decreasing.
- More than 85% of both 1AB and 1C schools have electricity facilities, while 1AB schools in the Western Province and 1C

schools in the Central Province have insufficient electricity facilities.

- Inadequate electricity facilities are caused by the geographical location of 1C schools in the central province.
- There are extremely few internet facilities and sanitary facilities in the studied school.
- Telephone facilities of the schools are at a very low level mostly in 1AB schools and slightly in 1C schools in the southern province, and at a low level in 1C schools in the central province.
- More than half of the 1AB schools consist of Science Laboratories (O/L) and Technology facilities, as well as essential equipment.
- More than 40% of 1C schools designated as new national schools lack space and equipment for (O/L) Science Laboratories for O/L and A/L, as well as Technology Laboratories.
- Inadequate level of equipment and the space required for the aesthetic subject in both 1AB and 1C schools is highlighted.
- It has been reported that school libraries lack the necessary resources.
- Absence of playground facilities in the schools
- Absence of Social Sciences rooms, English resource centers, home science rooms, languages labs, agriculture rooms, Computer labs, and Smart classrooms in more than 75% of schools.
- even though there is electricity in the school, more than 75% of the schools do not have electricity in the classrooms.

- Lack of internet facilities in classrooms in schools.
- Inadequate technical equipment required to carry out the learning and teaching process successfully in schools.
- Absence of interactive board/ smart board in the schools

To identify the physical resources necessary to implement the new secondary curriculum in the schools.

To accomplish this objective, data collected by officials of the National Institute of Education, ministry officials, and publications on the internet as well as many articles published by educational institutions were analyzed and conclusions formed. The following conclusions were identified as the physical resources required for the implementation of the new curriculum reform.

- Innovations Hubs
- Science lab, D & T lab & other labs equipped with infrastructure, lab resources, chemicals, and enough lab equipment.
- spaces, places, and opportunities for the children to engage in activities.
- facilities and platforms for the students and teachers to engage in blended learning, online learning, and other innovative pedagogical practices.
- ICT infrastructure, electricity, and connectivity to ease the teachers of unnecessary paperwork.

- Learning materials
- modernized classroom
- a well-equipped laboratory
- Personal computers with Wi-Fi
- Handheld devices
- Interactive whiteboards
- Digital cameras
- Electrical outlets
- Unique desk arrangements
- Equipped teacher podiums

RECOMMENDATIONS

According to the conclusions revealed about each objective of this study, recommendations are presented for two parties according to the importance of the recommendations. That is,

1. Recommendations made to government parties.
2. Recommendations made to schools.

Recommendations for Government

The following are the recommendations and suggestions that have been offered to the government parties based on the study's findings concerning each objective.

- The National Institute of Education should develop an accelerated Programme to make aware subject directors, in-service advisors, principals, and other relevant educational officials who work with zones, provinces, and the Ministry of Education about the new curriculum reforms.

- The National Institute of Education should determine the minimum physical resources and facilities and their standards required for the implementation of the new curriculum reforms in the school that is suitable for the 21st-century prepare it as a concept paper and submit it to the Policy and Planning branch of the Ministry of Education.
- The government should implement projects to increase the infrastructure of 1C schools designated as new national schools.
- Maximum number of students in a classroom should be 35
- Timely provision of learning materials
- The government should establish a systematic Programme to provide adequate water facilities in proportion to the number of pupils in western province schools.
- A Programme should be arranged to provide electricity to the schools located in the mountainous areas of the central province.
- Conduct discussions with the private telephone companies and prepare a Programme to provide telephone facilities and internet facilities to the schools.
- Taking steps to provide the necessary physical resources such as laboratories, Space and equipment for Aesthetics subjects, language labs, computer rooms, etc... for better implementation of curriculum
- Under the new curriculum modifications, it is mandatory for schools to have a playground and a gym, as it is compulsory for students to participate in sports.

- Because curriculum reformation based on technology is envisaged, initiatives should be done to provide schools with Smart classrooms with interactive boards.
- In addition, a strategy for building innovative laboratories should be developed, with a small number of schools participating because establishing innovative labs is expensive.
- The traditional physical arrangements of the classroom that have been in existence without any change for decades should be modernized considering the dynamic need for the new curriculum vision.
- Educational Administrator or managers who are responsible for the province or zonal should organize seminars or training sessions for the principals, teachers, and students on strategies of resources or technology use and maximum utilization of resources for better implementation of curriculum
- Educational Managers and administrators should allocate funds for physical resource maintenance to enhance efficiency in the process of teaching and learning.

Recommendations for Schools

The recommendations and suggestions to schools are as follows, based on the findings connected to each objective of the study.

- Conducting an accurate analysis of the resources available in the school identifying deficiencies managing resources and proper monitoring and regulation.
- Educating teachers and students about physical resource management

- The principal should be able to meet the needs of the school by contacting non-governmental organizations, well-wishers, alumni, and donors rather than waiting for the government to supply school infrastructure.
- Negotiating with private telecommunications firms to obtain phone and internet services for schools.

The study's limitations and findings suggest future research on the relationship between resource utilization and curriculum implementation and the impact of physical resource availability on student academic performance.

REFERENCES

Adeogun, A. A. (1999). Resource Provision and Utilization: A Case Study of Technical Colleges in Lagos State. *African Journal of Educational Management, 7*(1), 41–48.

Akinsanya, O. (2010). Differential distribution and utilization of human and material resources on student academic performance in secondary schools in Ogun State. *African Journal for the Study of Educational Issues,* 3(4), 40-57.

Alebiosu, A. A. (2005). Curriculum innovation: Challenges for Nigerian education. In S. O. Oriaifo (Ed.), *Curriculum Issues in Contemporary Education: Book in Honour of Prof. (Mrs.) Ebele J. Maduewesi*. Benin: Da-Sylva Influence.

Baker, V. J. (1988). *The Blackboard in the Jungle: Formal Education in Disadvantaged Rural Areas, A Sri Lanka Case.* Netherlands: Elburn Publisher.

Bell, L., & Rhodes, C. (1996). The skills of primary school management (0th ed., p. 232). Routledge. https://doi.org/10.4324/9780203130155

Brayan, A., & Bell, E. (2011). Business research methods (3rd ed.). Oxford University Press.

Chandrakumara, D. P. S. (2015). Regional imbalances in the distribution of educational resources in Sri Lanka. International Journal of Applied Research, 1(11), 13-21.

Cohen, L., Manion, L., & Morrison, K. (2000). Research methods in education (6th ed.). Routledge Falmer.

Determining the sample size. (2012, June 11). Slideshare. Retrieved December 14, 2020, from https://www.slideshare. net/ Richard745/ determining-the-sample-size

Eric, A., & Roseline, E. C. (2019). Physical resources availability and the academic performance of students in the Universal Basic Education scheme, Rivers State. International Journal of Innovative Development and Policy Studies, 7(1), 13-23. http://www.seahipaj.org

Guthrie, G. (2010). Basic research & methods: An entry to social science research. Sage Publications.

Hooker, E., Mwiyeria, S., Waweru, M., Ocharo, R., Bassi, L., Palmer, D., & Clark, D. (2011). TIVET ICT baseline survey report 2011: TIVET institutions, Kenya. http://scholar.lib.vt.edu.ezproxy.Waikato.ac.nz

Importance of resources in education. (2020). Study Education Site. Retrieved June 1, 2021, from https://study-education.com/ importance-of-resources-in-education/

Kigwilu, P. C., & Winston, A. J. (2017). Resource utilization and curriculum implementation in community colleges in Kenya. International Journal for Research in Vocational Education and Training (IJRVET), 4(4), 369-381. https://doi.org/10.13152/IJRVET.4.4.4

Kularathan, N. G., & Kodithuwakku, G. (1991). A study of the distribution of human and physical resources to Sri Lankan rural schools. Department of Research & Development, National Institute of Education, Sri Lanka. Maharagama.

Lekamge, D. (2006). Qualitative research for education. Deepani Publication (Pvt) Ltd.

McDonald, M. E. (2015, May 1). 21st century classroom resources. Retrieved May 1, 2015, from https:// www. Researchgate .net/publication/296951268

Ministry of Education. (2020). Circular No. 03/2020, Ref. No. ED3/37/01/133.

Mkpa, M. A., & Izuagba, A. C. (2009). Curriculum studies and innovation. Divine Mercy Publishers.

Mkpa, M. A. (1987). Curriculum development and implementation. Totan Publishers Ltd.

Moochi, O. (2012). Availability, acquisition, and utilization of instructional resources for teaching geography in selected

secondary schools in Central Kisii District (Master's thesis). Kenyatta University.

Nzewi, U. M., & Offorma, G. C. (n.d.). Curriculum diversification in Nigeria. CON.

Olagunju, A. M., & Abiola, O. F. (2008). Production and utilization of resources in biology education: A case study of southwest Nigeria secondary schools. International Journal of African and African American Studies, 11(2), 56-78.

Open educational resources for blended learning in high schools: Overcoming impediments in developing countries. (n.d.). ERIC Education Site. Retrieved June 2, 2021, from https://files.eric.ed.gov/fulltext/EJ837471.pdf

Resilient Educators. (2023). What's in the well-equipped 21st century classroom? Retrieved from https://resilienteducator.com/classroom-resources/whats-in-the-well-equipped-21st-century-classroom/

Senadheera, S., & Wanasingha, S. (2004). Research methodology. S. Godage & Sons.

Singh, J. (1991). Introduction to methods of social research. Sterling Publishers (Pvt) Ltd.

State Educational Technology Directors Association. (2013). 21st century learning environment model. United States Department of Education. Retrieved from https://files.eric.ed.gov/fulltext/ED522778.pdf

Usman, A. (2007). The relevant material resources and management of international corporate offices. Washington, DC: 600 Water Street, SW.

Yara, P., & Otieno, K. (2010). Teaching/learning instructional resources and academic performance in mathematics in secondary schools in Bondo District of Kenya. Asian Social Science, 6(12), 126-132.

REFLECTIVE INQUIRY IN ATTAINING '*NIBBĀNA*': A BUDDHIST RECOMMENDATION

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ABSTRACT

Reflection, as a key phase in action research has been brought into discussion in a broader scale in different levels of actions. Almost every study reveals that any cognitive act is not possible without reflective inquiry. In a very broad sense, reflection is a deliberate and purposeful metacognitive thinking anyone engages in improving their own action materializing in the past, present and future. 'Reflection' as a key component in attaining 'Nibbāna' has been recommended by the Buddha in several discourses. 'Abhidhamma' records five kinds of mastery (javana) with respect to attaining 'jhāna'. Mastery in reviewing (paccavekkhanavasi) is recommended in reviewing the 'jhāna' and its factors by means of retrospective knowledge immediately after adverting to them (Vism., pp.124-25), which means knowledge gained by looking back on any past action or recalling and any past experience. In 'Ambalātthika Rāhūlovāda Sutta' (Majjhima Nikaya, Sutta Pitaka, MN. II:61) the Buddha shows his son 'Rahula' the importance of 'reflection'. There he advised 'Rahula' to reflect on every physical, verbal and mental action should be done after repeated reflection. 'Dasadhamma Sutta' in 'Anguttara Nikaya' (AN: 10.48) records another instance where the Buddha showed the importance of reflective thinking. There he showed ten things that one who has gone forth should often reflect upon while providing a splendid example for the Buddhist emphasis on reflective thinking in the process of one's own self- research. Buddhism highly recommends inquiry by the self into the self. Based on Buddhist teachings advice you to see to yourself before you do an action (reflect for action), while you are doing an action (reflection in action) and after having done the action (reflection on action).

This study recommends the application of Buddhist concepts introduced nearly 2500 years ago in the field of action research in enhancing and upgrading the life of people.

Keywords: Reflection, Metacognitive Thinking, 'Nibbāna', Buddhism

INTRODUCTION

Reflection, as a key phase in action research has been brought into discussion in a broader scale and emphasized the importance of it in carrying out any action since without reflection it would not be possible to do so. Lewin (1946), in coining the term 'action research', has pointed out 'reflection' as a major phase which do sense making in the research process. Apparently, the notion has been used as 'reflective thinking', 'reflective inquiry' and 'reflective practice' maintaining the consistency of the sense of application. Reflective practice is generally identified as an inquiry method needs to be used in one's own professional development. Simultaneously understanding one's own philosophy, analyzing one's own achievements and failures, motivating changing behavior and understanding the dynamics of one's immediate environment are always underpinned by reflection. Dewey (1933) defines reflection as a cognitive process - 'the active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends'. Elaborating further, Dewey (1933) distinguishes reflective thinking from every day, routine thinking and specially from impulsive thinking. According to him, routine thinking is a result of natural cohesion to one's usual practices or tradition. As Calderhead (1989) records based on Dewey's notion: action taken as a result of reflective thinking was an 'intelligent action' because the aspects

of the issue had been considered rationally and the practitioner had undergone periods of doubt and uncertainty while working towards finding a solution. Dewey (1933) figure (Figure:1) further elaborates the idea;

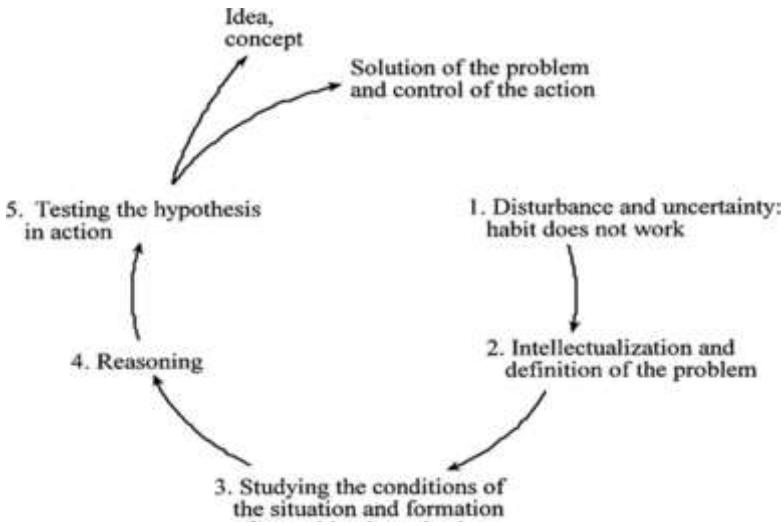

Figure 1: *Dewey's model of reflective thought and action*
Source: SAGE (2000)

According to Dewey's depiction, reflection starts due to any disturbance or uncertainty where habits do not work. Thereafter, for intellectualization, defining the problem, studying the conditions of the situation and formation of a working hypothesis and reasoning all require reflection inquiry. In addition, Dewey (1933) has discussed two different mental processes that are both labelled `thought'. In regard to the first thought process he noted that the human brain often engaged in cognitive processes that consisted of mental streams of `uncontrolled coursing of ideas. Dewey maintained that there was another mental stream that was not unlike this random coursing of things through the brain. It differed, however, in that these thought patterns were focused and controlled. Dewey defined these thought patterns as reflective thinking and maintained that their function was to `transform a situation in which there is experienced obscurity, doubt, conflict, disturbance of some sort, into a situation that is clear, coherent, settled, harmonious' (Dewey,1933, p. 101-102).

Teekman's (2000) idea further supports the objective of this study: Reflective thinking was extensively manifest, especially in moments of doubt and perplexity, and consisted of such cognitive activities as comparing and contrasting phenomena, recognizing patterns, categorizing perceptions, framing, and self-questioning in order to create meaning and understanding. In addition, within these cognitive processes self-self-questioning is essential and naturally occurs. Self-

questioning is significant within reflective thinking.

Reflective inquiry figures strongly and the concept appears in numerous places in Buddha's teachings. Once a Buddhist practitioner realizes the importance of reflection, thought is no longer seen as an intrusion or corruption. Reflection which is the axis of investigation is a natural occurrence in the mind and it is a natural aptitude. Reflection is a function of awareness and at the same time helps in discriminating the experiences in improving the cognitive domain. The study intends to reveal the Buddhist recommendation on reflective inquiry which has become a paramount feature of different fields, even in the research field, especially in action research. The concept is not broadly brought into discussion though reflection plays a major role in attaining '*jhāna*'. Therefore, the study aims to grab the attention on the need to address this notion frequently in improving the knowledge of Buddhist practitioners.

METHODOLOGY

Content analysis is the principle technique in the research methodology. '*Pāli'* Cannon' was majorly reviewed in search of the concept of reflective inquiry in the Buddhist doctrine. '*Abhidhamma Pitaka*' and the '*Sutta Pitaka*' were majorly reviewed. Maintained the limitation within the '*Theravāda*' Buddhist doctrine.

RESULTS AND DISCUSSION

Regardless the definitions given to reflection from different perspectives in the research world, what is to be highlighted in our discussion is the Buddhist recommendation for reflective inquiry. The essence of Buddhist philosophy is based on managing one's own mental moments. Therefore, as an initiative, the present study tries to reveal the Buddhist recommendation for reflective inquiry in managing one's own mental moments (*citta*). Embarking the discussion with what Calderhead (1989) says: the chain of thoughts occur in the process of reflection can be found in the process of attaining '*jhāna*' (spiritual heights one obtains in meditation) on the path to the '*Nibbāna*'. Ven. Gunarathana (1980, p.150) records it as: "The commentaries and later analytical treatises of the '*Theravāda*' tradition connect the process of '*jhāna*' attainment with the account of the cognitive process '*cittavīthi'* (cognitive process). This analysis is presented in the '*Abhidhamma*'. The '*Abhidhamma*' analyses experience into a succession of discrete, causally connected occasions of consciousness called '*cittas'* (mental moments) or '*citt'uppādas*' (arising mental moments).

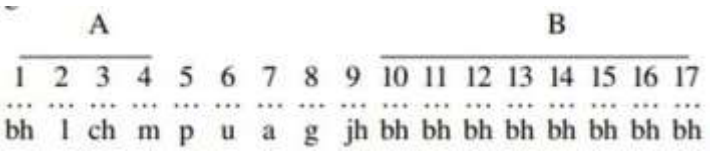

Figure 2: *Thought moments in 'jhāna' attainment process*
Source: Gunaratana (1980, p.153)

Here line A represent the four great thought moments preceding the '*jhāna*' process. '*bh*' (*bhavanga*) represents'-ceasing of any previous mental moment. '*l*' its vibration; '*ch*' – it's cutting off and '*m*' - the mind's advertence to the counterpart sign through the mind-door. Then the preliminary work for the next mental moment starts. This comprises the past stream of consciousness or the previous cognitive action. And then getting ready to access the new mental moment (*jhāna*). '*Javana*' is described as alacrity, readiness, the stage of full perception or apperception. The first '*javana*' in this series is called [*p*] '*parikamma*' which can be given the meaning 'preliminary work'. The second is called 'access' or [u] '*upacāra*' (entering the act), the third is [*a*] '*anuloma*' (gets qualified further) and the fourth is [*g*] '*gotrabhū*' (change of lineage). Now the practitioner is ready to attain the '*jhāna*'. Once the meditator attains the first '*jhāna*' he or she has to strive for the second.

Buddha says "After attaining the first 'jhāna' a few times the meditator is not advised to set out immediately striving for the second 'jhāna'. This would be a foolish and profitless spiritual ambition. Before he is prepared to make the second 'jhāna', he must first bring the first 'jhāna' to perfection".

In '*Abhidhamma*' it is recorded that one should acquire five kinds of mastery with respect to the first '*jhāna*'. These masteries are: 'mastery in adverting' (*Āvajjanavasi*) mastery in attaining' (*samāpajjanavasi*), 'mastery in resolving' (*adhitthānavasi*), mastery in emerging'(*vutthānavasi*) and

'mastery in reviewing' (*paccavekkhanavasi*) (Vism., pp.124-25.). Mastery in adverting is the ability to advert to the '*jhāna*' factors one by one after emerging from the first '*jhāna*'; the meditator must be able to attend to these factors whenever he wants, and for as long as he wants. Mastery in attainment is the ability to enter upon *'jhāna'* quickly. Mastery in resolving is the ability to remain in the '*jhāna*' for exactly the pre-determined length of time. Mastery in emerging is the ability to emerge from the '*jhāna*' quickly without any difficulty. Mastery in reviewing is reviewing the '*jhāna*' and its factors by means of retrospective knowledge '*paccavekkanañāna*' immediately after adverting to them. ('*Paccavekkanañāna*' is used as '*Prathyavekshathāva'* in Sinhala).

According to many reliable sources, '*Prathyavekshathāva*' is looking at, consideration, regard, attention, reflection, contemplation, reviewing. Attaining a '*jhāna*' which is a pinnacle in meditation require reflective inquiry extensively and the Buddha has emphasized on the importance of reflection in attaining '*Nibbāna*'. By reflecting one can gain knowledge by looking back on any past action or recalling and any past experience. Therefore, it is mandatory for the meditator to evaluate and assess the quality of the past experience by recalling them. Based on the evaluation the practitioner can judge whether the achievement is satisfactory or below the expectation.

Gunaratana (1980) has extracted a splendid example from '*Anguttara Nikāya*': "After attaining the first '*jhāna*' a few times

the meditator is not advised to set out immediately striving for the second '*jhāna*'. This would be a foolish and profitless spiritual ambition. Before he is prepared to make the second '*jhāna*' the object of his endeavor he must first bring the first '*jhāna'* to perfection. If he is too eager to reach the second '*jhāna*' before he has perfected the first he is likely to fail to gain the second '*jhāna*' and find himself unable to regain the first. The Buddha compares such a meditator to a foolish cow who, while still unfamiliar with her own pasture, sets out for new pasture. She gets lost in the mountains without gaining food or drink and cannot find her way back home" (AN. 4, p. 418-419).

In addition, the interest of the Western scholars about the Buddhist recommendation for reflective inquiry in attaining '*Nibbāna*' makes a gesture for the need of further studies on this notion. Calderhead (1989) says about the chain of thoughts occur in the process of reflection can be found in the process of attaining '*jhāna*' (spiritual heights one obtains in meditation) on the path to the '*Nibbāna*'. He says that "It was then intended that this 'chain' of thoughts was rigorously examined for any assumptions, underlying beliefs or knowledge that had been utilized in the formulating of a solution and any evidence that supported these ideas". Calderhead (1989, p. 44) describes an extensive ideology of Dewy (1933) distinguished reflective thinking from every day, routine thinking and especially from impulsive thinking. Included in his notion of routine thinking was the thinking (and any subsequent actions) that resulted from an

individual's automatic adherence to rules originating from authority or from tradition. He proposed instead that action taken as a result of reflective thinking was 'intelligent action', because the aspects of the issue had been considered rationally and the practitioner had undergone periods of doubt and uncertainty while working towards finding a solution. This definition absolutely blends with the mission of attaining '*Nibbāna*'.

At the effort of unwrapping the instances where the Buddha has recommended reflective inquiry, 'Ambalātthika Rāhūlovāda Sutta' (Majjhima Nikaya, Sutta Pitaka, MN. II:61), 'Dasadhamma Sutta' (Anguttara Nikaya, Sutta Pitaka, AN. 10.48) and 'Saṅgīthi Sutta' (Digha Nikaya, Sutta Pitaka, DN. 33) out of numerous discourses will be taken into consideration.

In 'Ambalātthika Rāhūlovāda Sutta' [Majjhima Nikaya'; 'Sutta Pitaka'; MN. II:61] the discourse between the Buddha and his son [at the time he was a lay person] 'Rāhūla' reveals the importance of reflective inquiry. At one point during the discourse, the Buddha asks from the monk: ["Taṃ kimmaññasi rāhula kimatthiyo ādāsoti"] "What do you think, Rahula? What is the purpose of a mirror?". The Monk replies: ["Paccavekkhanattho bhanteti"] "For the purpose of reflection, venerable sir." Therefore, the Buddha's recommendation was to reflect upon one's own physical, verbal and mental actions before doing. When you reflect, if you know: 'This action that I wish to do with the body would not lead to my own affliction, or to the affliction of others, or to the affliction of both; it is a wholesome

bodily action with pleasant consequences, with pleasant results/ then you may do such an action with the body.

'Dasadhamma Sutta' in 'Anguttara Nikaya' [AN: 10.48] records another instance where the Buddha showed the importance of reflective thinking. There the Buddha advised the monks: "Bhikkhus, there are these ten things that one who has gone forth should often reflect upon. What ten?" ["Dasa yime bhikkhave dhamma pabba-jitena abhiṇhaṃ pacc'avekkhītabbā. Katame dasa?"]. Based on the teaching in that 'sutta' the Buddha recommends his monks to reflect upon ten things: "One who has gone forth should often reflect upon:

-'I have entered upon a classless condition
-'My deportment should be different"
-'My living is dependent upon others'
-'Do I reproach myself in regard to virtuous behavior?'
-'Do my wise fellow monks having investigated, reproach me in regard to virtuous behavior?'
-'I must be parted and separated from everyone and everything dear and agreeable to me'
-'Of '*kamma'* I am constituted. '*Kamma'* is my inheritance; '*kamma'* is the matrix; '*kamma'* is my kinsman; '*kamma'* is my refuge. Whatever '*kamma'* I perform, be it good or bad, to that I shall be heir'
-'How am I spending my nights and days? so that in my last days, when I am questioned by my fellow monks, I will not be

embarrassed?'

-'Do I take delight in empty huts?'

-'Have I attained any superhuman distinction in knowledge and vision worthy of the noble ones'.

The Buddha has guided his disciples to inquire about the self by the self. Self-learning enables you to learn what you want, when you want and how you want. This is an absolutely a tremendous characteristic of a teacher. At the same time, an excellent guidance for a self- researcher.

The Buddha has preached about three kinds of wisdom in '*Saṅgıti-Sutta*' [DN.33]. The central importance in the essence of Buddhism is developing wisdom. The three kinds of wisdom are: Wisdom produced by reflection [*Cinthāmayā Paññā*]; Wisdom produced by hearing [*Sutamayā paññā*] and wisdom produced by cultivation [*Bhāvanāmayā Paññā*].

'Yoniso manasikāra Sampadā Sutta' [SN.5; Mahāvagga1; Magga Saṁyutta 6; Sūriya Peyyāla 7] is a precise expression of the Buddha found in the 'Magga Saṁyutta' the collected discourses on the Noble Eightfold Path. There, the Buddha speaks about two ways in which wrong views arises. One is through listening to others ['parato ghosa'] without listening to the true 'Dhamma', the other one is through unwise attention ['ayoniso manasikāra']. Not listening to the true Dhamma allows arising 'wrong view' by preventing arising the 'right view' and prevents wise faith. Based on that the practitioner will never have any understanding about the true reality. A central term in the 'Yoniso

Manasikāra Sampadā Sutta' is "wise attention" [yoniso manasikāra] as broadly translated 'wise reflection'. 'Yoniso' comes from 'yoni', meaning "the womb, origin [place of birth]." As such, 'yoniso' means "down to its origin or foundation" [PED], and 'manasikāra' ['mano', "mind" → 'manasi' [locative] + 'kara', "doing, acting, working] means technically mentation, or more simply "direct the mind or attention in a certain way." Therefore, the term frequently appears in the suttas in the sense of "wise attention, wise reflection" [Tan,P.2007]. 'Wise reflection' absolutely combined with causal relationship. The practitioner needs to evaluate the consequences of one's physical, verbal and mental behavior. In addition, conditioned nature of the phenomena which leads to one's spiritual development must be explored. This exploration is essential along the Noble Eightfold Path in attaining 'Nibbāna' and Buddhist literature refers to it as 'wise reflection' and 'critical reflection'. Through 'wise reflection' one sees what is unwholesome as unwholesome, what is impermanent as impermanent and what is unsatisfactory as unsatisfactory. the Buddha has likened wise attention to the dawn that marks the rising of the sun in the morning ['Yoniso Manasikara Sampadā Sutta' of the 'Samyutta Nikaya'].

'Dawn, Bikkhus, is the forerunner, the harbinger of sun-rise. Even so, Bhikkhus, for a monk this is the forerunner, the harbinger of the arising of the noble eight-fold path, that is, accomplishment in wise attention. Bhikkhus, when a monk is accomplished in this wise attention, it is to be expected that he

will cultivate the noble eight-fold path, develop the noble eight-fold path" [Bodhi, B.1999].

'Titthiya Sutta' [AN. 3.68] explains in the one who pays wise attention or one who practice wise reflection, unrisen passion will not arise, arisen passion will be abandoned, unrisen aversion will not arrive, arisen aversion will be abandoned, un-arisen delusion will not arise and arisen delusion will be abandoned. 'Ahara Sutta' [SN. 41.51] is another instance where the Buddha has emphasized the importance of wise reflection.

Continuous emphasizing on the importance of reflection or reflective thought in spiritual practice by the Buddha proves the gravity of it in understanding what is going in mind, distinguishing wholesome and unwholesome activities, evaluating one's own improvement in spiritual development and in making decisions at the light of new knowledge. Though importance of this concept is not brought into discussion frequently it is an intruder which deliberately manage one's mental moments. Reflection is a practice which can be used for both wholesome and unwholesome deeds. Therefore, the Buddha's advice is to engage in reflection wisely. Reflecting wisely, is one of the most important features of a practitioner who is attempting for spiritual heights. On the night of the Buddha's enlightenment, he was reflecting on 'Causality' and 'Dependent Origination'. This kind of wisely reflecting involves skillful use of thought, not the avoidance. In spite of the fact, reflective inquiry, parallelly to investigation, refers to the quality of the mind. Reflective inquiry

is the tool for discerning orders, which looks into things, organizes patterns, what is going on in the mind and what is the nature of the experience. Reflective practice, of course is an exploratory, purposeful, creative pursuit for better knowledge and understanding, and to look systematically and rigorously at one's own practices [Rolfe, Freshwater & Jasper, 2001].

Reflective practice helps the practitioners to do self-inquiry to enhance their positive thoughts and mange their mental moments. The Buddha who had an extraordinary intelligence knew that reflective inquiry helps problem solving and it should be emphasized in his teachings. He knew that reflective thought as an active, persistent and careful consideration of any belief in light of new knowledge since his advice was not to believe anything blindly but to investigate. According to 'Kālāma Sūtta' ['Angūttara Nikāya'.3.65], the Buddha taught to 'Kālāma' princes that they should not believe in a tradition or any teaching due to its antiquity, because they are claimed to be true, through the application of various methods or techniques or its popularity, rather they should call upon the direct knowledge grounded in one's own experience in critically analyzing the new light of knowledge and verify it against its significance to the human beings. The 'Kālāmas' were proposed to avoid passive acceptance but, rather, constant questioning and personal testing underpinned by reflective inquiry.

CONCLUSIONS

The Buddha has highlighted the importance of reflective

inquiry significantly in his teachings. In spite of the fact, the concept is not brought into discussion broadly. Reflective inquiry is mentioned as ‘wisely attention’ and ‘wisely reflection’ in Buddhism. Since the utmost outcome of Buddhism is spiritual, wisely reflection is accepted. This leads the practitioner to discriminate own experiences and relate them to wholesome and unwholesome deeds. The wisdom generated through wisely reflection is ‘wisdom through reflection’ or ‘Cinthāmayā Paññā’ in ‘Pāli’. Since reflective practice helps the practitioners to do self-inquiry to enhance their positive thoughts and manage their mental moments, it should be brought into discussion broadly in upgrading and enhancing the standard of people.

REFERENCES

Adelman, C. (1993). Kurt Lewin and the origins of action research. *Educational Action Research, 1*(1), 7-24. https://doi.org/10.1080/0965079930010102

Beresford, P. (2001). Social work and social care: The struggle for knowledge. *Educational Action Research, 9*(3), 343-353.

Bodhi, B. (2000). *The Connected Discourses of the Buddha*.

Bodhi, B. (1987). *The long discourses of the Buddha*. Wisdom Publications.

Brahmavamso, A. (1991). Samatha meditation. *Forest Sangha Newsletter*. England: Amaravati Buddhist Centre.

Buddhism. (2009). *Encyclopaedia Britannica*. Retrieved November 26, 2009, from Encyclopaedia Britannica Online Library Edition.

Buddhaghosa. (1956). *The path of purification (Visuddhimagga)* (Bhikku Ñāṇamoli, Trans.). Colombo, Ceylon: R. Semage.

Calderhead, J. (1989). Reflective teaching and teacher education. *Teaching and Teacher Education, 5*(1), 43-51.

Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process*. Boston, MA: D.C. Heath & Co Publishers.

Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues, 2*(4), 34-46.

Gunaratana, H. (1980). *A critical analysis of the Jhāna's in Theravada Buddhist meditation*. Washington, D.C.: The American University Library.

Ñāṇamoli, B., & Bodhi, B. (1995). *The teachings of the Buddha: The Middle Length discourses of the Buddha* (A new translation of the Majjhima Nikāya). Sri Lanka: Buddhist Publication Society.

Teekman, B. (2000). Exploring reflective thinking in nursing practice. *Journal of Advanced Nursing, 31*, 1125-1135.

Thanissaro Bhikkhu. (2006). *Ambalatthika-rahulovada Sutta: Instructions to Rahula at Mango Stone [MN 61]* [Translated from the Pali by Thanissaro Bhikkhu]. Access to Insight [BCBS Edition]. Retrieved November 30, 2013.

Thanissaro, B. (2005). *Kālama Sutta.* Retrieved from https://www.accesstoinsight.org/ati/tipitaka/ [Accessed September 12, 2021].

Rolfe, G., Freshwater, D., & Jasper, M. (2001). *Critical reflection in nursing and the helping professions: A user's guide*. Basingstoke: Palgrave Macmillan.

Vajiranāṇa, P. (2010). *Buddhist meditation in theory and practice* (New Edition revised and edited by Allan R. Bomhard). Charleston, Charleston, USA: Buddhist Fellowship Education Published.

Winter, R. (2003). Buddhism and action research: Towards an appropriate model of inquiry for the caring professions. *Educational Action Research, 11*(1).

A STUDY ON EVALUATING THE EFFECTIVENESS OF ALLOCATING PRIMARY TEACHERS IN GOVERNMENT SCHOOLS IN SRI LANKA

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ABSTRACT

This study focuses on the crucial role of effective teacher workforce utilization in optimizing public spending on education and promoting equity in primary schools. This study also aims to identify whether the primary teachers are allocated in schools to maintain equity and the effect of teacher utilization on students' performances. Analyzing the secondary quantitative data, the study finds that the government schools have a sufficient number of teachers in primary grades equal to the world average Pupil Teacher Ratio (PTR) while the percentage of qualified primary teachers is minimal compared to the other regions of the world. However, disparities were emerged in the percentage of professionally qualified teachers, with popular schools having higher proportions, expanding inequalities in disadvantaged areas. The findings of this study highlighted the positive correlation between students' performance and professionally qualified teachers. Further, it shows the importance of maintaining an optimal level of PTR. This study recommends the rationalization of the school system in a cost-effective way, reviewing the existing norms on teacher deployment, implementing fast-track in-service training programmes for existing untrained teachers, expanding pre-service teacher education and conducting close supervision and coaching for untrained teachers to ensure the maximum utilization of primary teachers.

Keywords: ***Pupil-Teacher Ratio (PTR), Professionally Qualified Teachers, Teacher Allocation***

INTRODUCTION

A significant proportion of the public education expenditure in Sri Lanka is allocated for the effective management of the teacher workforce, particularly encompassing aspects such as teacher remuneration, professional development, and the provision of adequate teaching facilities. Therefore, efficient teacher utilization is a requisite in order to achieve the anticipated outcomes of the education system.

The Organization of Economic Cooperation and Development (OECD) report (2020) highlighted that "class size and PTR also have a considerable impact on the level of current expenditure on education through teacher salary cost". Further, much research stressed the effect of professionally qualified teachers on improving the quality of education.

The Government of Sri Lanka (GoSL) provides fee-free education from primary education to first-degree level of state universities. Hence, the government must bear all the education expenditure for maintaining the school system to provide quality education. In this context, the cost-effectiveness of resource utilization including human resources is vital for countries like Sri Lanka with slow economic growth.

In Sri Lanka, the primary teacher cadre in government schools is calculated based on the student number and it is clearly stated in Circular No. 06/2021 issued by the Ministry of Education (MoE) and the qualifications of the teachers are mentioned in the teacher service minutes. Based on the national norms, every primary class should have a dedicated teacher who teaches all primary subjects other than

English. However, with the increase of parallel classes for the grades, the number of teachers provided for the primary section is gradually increased based on this circular. An approximate average of 35 students are allocated for a primary teacher. In addition, English teachers are allocated for primary schools, and Aesthetic teachers are allocated for schools with more than 100 students. English and Aesthetic teachers are not considered as primary teachers.

Over the past decades, the school system has exhibited a noticeable trend towards bipolarization, driven by the considerable attraction of popular schools. This phenomenon has led to the closure of smaller schools and an expansion of comparatively larger ones. Considering this perspective, it becomes imperative to assess the efficiency of teacher utilization to gain a deeper understanding. Although the GoSL has taken action to recruit teachers into the education system, rural schools, especially those in disadvantaged areas, still lack qualified teachers. This situation severely impacts students' performance and leads to an increasing demand for popular schools, creating numerous challenges in society. Analyzing teacher allocation and its impact on educational outcomes is crucial for future education planning. However, recent research in this area is lacking in Sri Lanka.

Research Objectives

The purpose of this study is to identify whether the primary teachers are allocated in an equitable manner among the government schools, adhering to the national policy on ensuring the equity principle in resource allocation in the education system and its impact on the students' performance.

In alignment with the key research objective, three specific objectives have been set forth to get a clear understanding of the scope of the research.

Specific Objectives

1. To identify whether there is an optimal number of primary teachers within the education system and to evaluate the equitable distribution of them.
2. To identify the current issues in allocation professionally qualified teachers in the primary section of the education system.
3. To find out the impact of teacher allocation and their professionalism on students' performances since it provides the insight of how teacher factor contributes to education quality development.

Achievement of all these objectives will support the providing of evidence for the policy making in the education system of Sri Lanka.

LITERATURE REVIEW

Teacher requirement is calculated by considering several factors such as the number of student enrollment, curriculum contents, pedagogical methods and type of education organization (Williams, 1979). Further, Williams (1979) stated that all the criteria used in identifying the teacher requirement depend on public policy, "public policy towards levels of school admission and PTR will largely reflect the level of education cost". According to the OECD (2021), weighing smaller PTR against the teachers' salary, investment in professional

development, investment in teaching technology and using teacher assistants is vital.

In most of developing countries, there is no adequate teaching staff and there is an issue with teacher distribution too (Torsten, 2018). According to Wehella & Balasooriya (2014), a higher percentage of professionally qualified teachers were served in urban areas for a long duration while newly recruited untrained teachers were served in rural & disadvantaged areas in Sri Lanka. Moreover, Balasooriya (2012) stated that one of the reasons for the bipolarization of schools in the education system in Sri Lanka was the lack of teachers in rural schools due to improper teacher deployment in the system. Therefore, it is vital to find out the current teacher deployment practices to check whether government policy on equity is ensured.

There are several arguments about the effect of PTR on students' performance. According to Waita, et al., (2016), students' performances in national examinations are significantly influenced by the PTR. "Our finding about the negative correlation between student-teacher ratio (STR) and academic achievement clearly implies a change in that ratio, especially for the cities with very high STR" (Koca & Celik, 2015) while Gourault, (2023) stated that "several long-term studies have noted that effective students' engagement strategies, regardless of class-size have a measurable influence on student attitude as well as measurable influence on student achievement and learning outcomes". Moreover, Dushmanth (2016) stated that multiple factors such as community, household, school, and early life experiences and investments in education influence the students' academic

achievement and among these multiple factors, teacher attributes and behaviors are circuital.

Teacher's competencies play a pivotal role in influencing students' performances. Particularly in primary education, it is important to allocate teachers with high competencies to enhance the overall quality of the education system.

METHODOLOGY

The study employed the quantitative approach, and it is totally based on secondary data from reliable sources. Population data which was data from all schools having primary sections was used, allowing for the comprehensive examination of the target population. Census data from 9,149 schools were used to analyze the teacher allocation. Mainly descriptive statistics were used, and slightly inferential statistics were used.

Secondary data, especially school census data of the MoE, grade 5 scholarship examination data of the Department of Examination (DoE) and data of the Department of Census Statistics (DCS) were collected and analyzed. Students and teacher data of the school census (2021) were analyzed to determine the teacher allocation. Teacher allocation was measured through the degree of randomness between the number of teachers and the number of students, and the PTR was used to check whether teacher allocation is based on national standards. Moreover, PTR and professionally qualified teacher percentages were examined to find out the effectiveness of teacher allocation in terms of the students' academic achievement. For the purpose of academic achievement analysis, only

the 2019 grade 5 scholarship examination data were used since 2020 and 2021 examination data were influenced by the circumstances of the COVID-19 pandemic.

2019 grade 5 scholarship examination and 2019 teacher data were analyzed to find out the relationship between them with an underlying assumption that the number of teachers remained relatively stable during the period of 2019-2021. No teacher transfers or recruitments were reported due to the pandemic with only a marginal number of retirements.

The following qualifications are considered as the qualifications which needed to be a professionally qualified teacher:

i. Bachelor of Education Degree (BEd);
ii. Education Diploma offered by the National Colleges of Education (NCoEs);
iii. 300 hours of training on Primary Education; and
iv. Teacher training certificates provided by Teacher Training Colleges (Institutions / Distance).

RESULTS AND DISCUSSION

Teacher allocation and utilization in primary schools and primary sections of the schools in the public sector

Teacher allocation among the schools is mainly done based on the number of students. Therefore, degree of randomness ($1-R^2$) between number of teachers and the number of students is calculated to assess the fairness of the distribution of the teacher workforce since it provides insight into the percentage difference of the teacher distribution associate to the other factors than the number of students.

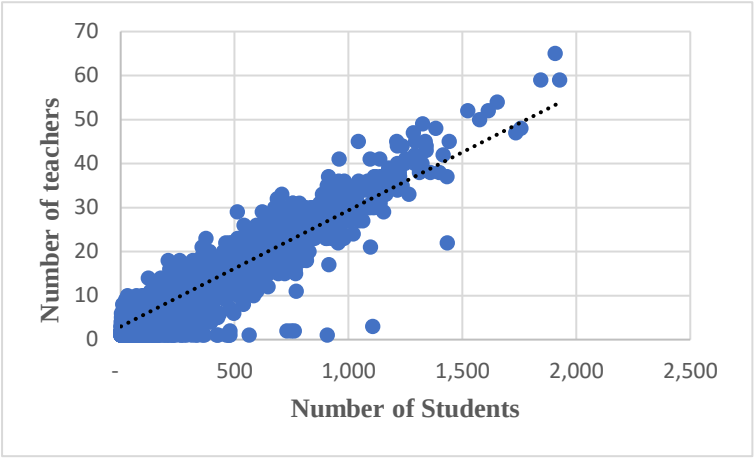


Figure 1: *Teacher allocation based on Number of teachers*

Source: MoE (2021).

There is a significant relationship (R^2 is 0.888035 and 1-R^2 is 0.111965) between the number of teachers and the number of students in primary sections of the government schools in Sri Lanka as shown in Figure 1. Only 11.2% represents the different factors other than the number of students in teacher allocation. Compared to other developing countries, the Sri Lankan situation is reasonably good in relation to teacher allocation in primary education. The level of randomness in the distribution of teachers compared to the quantity of students is greater than 50% in certain countries, such as South Sudan (recorded at 62% in 2015). Conversely, in countries like Cape Verde (recorded at 4% in 2009) and Zimbabwe (noted at 14% in 2014), this degree of randomness is notably low.

The data revealed that the distribution of teachers in primary grades is mainly (88.8%) based on the number of teachers as a result of adhering to circular No. 2021/06 on teacher cadre defining issued

by the MoE. Consequently, it shows that overutilization and underutilization of teachers in primary grades is minimal.

Table 1: *Average PTR of different regions of the World*

Category	PTR
Region	
South Asia	33:1
Sub-Saharan Africa	37:1
Middle East and North Africa	21:1
North America	14:1
OECD members	15:1
Small state	23:1
World	23:1
Income Level	
High income Countries	14:1
Upper-middle income	18:1
Middle-income	24:1
Low-income	40:1
Sri Lanka	**23:1**

Source: World Bank (2018 and research calculation)

The average PTR in primary grades within Sri Lanka stands at 22.93:1, even though the standard calculation prescribes a PTR of 35 for primary grades according to the norm. This observation highlights that the quantity of government teachers for public primary education on a national scale is sufficient. This average PTR is approximately in line with the global average for primary education, which is 23:1 and middle-income countries' average which is 24:1 according to the World Bank's data of 2018. Additionally, Sri Lanka's PTR is lower than the average of South Asian countries, which is 33:1 and higher than the OECD average of 15:1 as mentioned in Table 1 above.

Though primary teachers in Sri Lanka are sufficient at the national level, disparities can be found in regional and school levels

due to various reasons. Provinces such as Sabaragamuwa (SabP), North Central (NCP), Uva (UP), North Central (NCP) shows 100% of teacher distribution based on the number of students while other provinces show a smaller percentage of teacher distribution based on other factors than the students' number. Northern Province (NP) and Eastern Province (EP) show the highest number of degrees of randomness in teacher distribution respectively 0.22 and 0.18. NP displays the highest degree of randomness in teacher distribution and it has the lowest PTR showing underutilization of teachers. The highest PTR in the Western province (WP) is due to high population density. Other provinces have more or less similar numbers of PTR ranging from 21-24. Further, there are differences in PTR in districts within the same province. Table 2 illustrates the percentage of schools based on the PTR according to the types of schools.

Table 2: *Percentage of schools based on the PTR according to the types of school*

	PTR											
School Type	**<5**	**Percentage**	**5-15**	**Percentage**	**15-25**	**Percentage**	**25-35**	**Percentage**	**>35**	**Percentage**	**Grand Total**	**Percentage**
1AB		0.0	5	1.3	58	14.9	242	62.1	85	21.79	390	100
National		0.0	1	0.6	25	14.6	125	73.1	20	11.70	171	100
Provincial		0.0	4	1.8	33	15.1	117	53.4	65	29.68	219	100
1C	7	0.4	168	10.6	512	32.3	654	41.3	244	15.39	1585	100
National		0.0	2	13.3	6	40.0	7	46.7		0.00	15	100
Provincial	7	0.4	166	10.6	506	32.2	647	41.2	244	15.54	1570	100
Type 2	172	5.4	1269	39.6	1008	31.4	533	16.6	224	6.99	3206	100
Provincial	172	5.4	1269	39.6	1008	31.4	533	16.6	224	6.99	3206	100
Type 3	437	11.0	1523	38.4	911	23.0	869	21.9	228	5.75	3968	100
Provincial	437	11.0	1523	38.4	911	23.0	869	21.9	228	5.75	3968	100
Grand Total	**616**	**6.7**	**2965**	**32.4**	**2489**	**27.2**	**2298**	**25.1**	**781**	**8.54**	**9149**	100

Source: MoE (2021).

Note: School categorization of Sri Lanka- 1AB: Schools having G. C. E AL Science/Mathematics and Technology Streams, IC: Schools having GCE AL Commerce, Arts or both streams, Type 2: Schools with Grades 1-11 Type 3: Primary Grades only. National Schools: Schools governed by the central ministry,

Provincial schools: Schools governed by the provincial councils.

The PTR is calculated as an average number. The schools having the same number of students do not have the same number of teachers and the PTR of each school was not similar within the province. According to the Sri Lankan norms, each primary class should have a teacher who teach all the primary subjects. As illustrated in Table 3, the highest percentage (32.4%) of schools have a PTR range from 5-15 while the lowest percentage (6.7%) of schools have a PTR below 5. Approximately 50% of Type 2 and Type 3 schools have a PTR of less than 15, however, some of these schools do not have teachers for all classes and multi-grade teaching method is practicing. Though these practices are cost-effective, they may result in degrading the quality of education. It seems that a considerable number of primary teachers are underutilized in the system. Only 8.54% of the schools have PTR more than 35 and most of these schools are 1AB and 1C schools which are popular schools having higher demand for the school admissions. Most of the 1AB and 1C schools have optimum PTR ranging from 25-35.

Table 3: *Percentage of schools based on the PTR – Provincial-wise*

Provinces	**PTR**					
	<5	**5-15**	**15-25**	**25-35**	**>35**	**Total**
Western	2.5	20.8	24.8	40.8	11.2	100.0
Central	6.8	34.9	29.1	20.6	8.7	100.0
Southern	7.5	28.4	28.1	29.2	6.8	100.0
Northern	12.7	48.3	24.7	10.2	4.0	100.0
Eastern	4.2	29.4	31.5	25.3	9.6	100.0
North Western	3.6	31.3	27.0	29.4	8.8	100.0
North Central	2.7	30.6	29.9	25.4	11.4	100.0
Uva	10.8	34.4	26.8	19.8	8.2	100.0
Sabaragamuwa	11.7	36.8	23.1	20.6	7.7	100.0
Total	**6.7**	32.4	**27.2**	**25.1**	**8.5**	**100.0**

The highest percentage of schools in CP, NP, NWP, NCP, UP, and SabP represent the PTR category less than 15 whereas the highest percentage of schools in WP and SP represent the PTR range 25-35 category. EP also represents PTR 15-25 category. PTR of more than 60% of schools in NP is lower than the 15 while PTR of more than 50% schools of WP is higher than 25. Moreover, NCP and WP ranked top in the PTR more than 35 category.

The workload of the teachers is high with high PTR though there is no difference in the teacher wages, based on the number of students which they have to serve. This may lead the equity issues and education quality issues.

According to the school census data 2021, zero student enrollment was observed in 88 provincial schools and out of these schools 24 are type 2 and 64 are type 3 schools and 80 are schools with a student count less than 50, indicating the closing down of smaller schools. Recent trend in Sri Lankan education system is bipolarization of the school education system due to increasing demand for popular

schools and decreasing population in some rural areas. Therefore, small schools are gradually closing down while expanding the number of popular schools. Hence, the teacher workforce in primary grades is adequate with the existing norms with appropriate deployment policies.

One can infer that there is an ample supply of primary teachers in the education system, and they have been strategically allocated to schools based on student enrollment numbers ensuring educational equity. However, considering the efficiency of resource allocation, most of the primary teachers are underutilized in terms of workload with the decreasing student numbers in smaller schools.

Distribution of professionally qualified teachers within the education system

Providing a teacher is not enough to build the required competency in children and teachers also should possess skills and competencies for a quality teaching-learning process. In this context, professionally qualified teachers are vital for improving the quality of education as teachers play a main role in the learning-teaching process.

Table 4: *Percentage of professionally qualified teachers in the regions of the World*

Category	Percentage of professionally qualified teachers in 2020
Region	
South Asia	76%
Sub-Saharan Africa	70%
Middle East and North Africa	85%
North America	98%
OECD members	93%
Small state	81%
Europe and Central Asia	93%
World	86%
Income Level	
High-income countries	94%
Upper-middle income	86%
Middle-income	81%
Low-income	74%
Sri Lanka	**65.64% (2021)**

Source: World Bank (2022)

The percentage of professionally qualified teachers in primary grades is low in Sri Lanka compared to most of other countries in the World. Nearly all regions of the world including the least developed countries have average professionally qualified teachers in primary grades above 70% while Sri Lankan value is 65.64%. Though Sri Lanka has the sufficient number of teachers, a significant portion of them is unqualified. Recruiting graduates as primary teachers without any professional qualification on teaching during last decades may have resulted the growth of unqualified teachers in the Sri Lankan education system. Even though education authorities have taken several initiatives to train these teachers, still there is a considerable number of teachers without mandatory teaching qualification. Except for the NCP, all the other provinces have professionally qualified

teachers ranging from 60-80%. However, there may be slight differences among the districts within the provinces. NP ranked top in availability of teachers and professionally qualified teachers.

Table 5: Percentage of schools having more than 60% of professionally qualified teachers. based on school characteristics

School Types	**Percentage of Schools having more than 60% of professionally qualified teachers**
National Schools	**97.85%**
Provincial Schools	53.36%
1AB Schools	**81.28%**
1C Schools	55.39%
Type 2 Schools	48.53%
Type 3 Schools	55.82%
Schools with more than 1000 students	**86.53%**
Schools with 501-1000 students	73.34%
Schools with 251-500 students	60.11%
Schools with less than 250 students	51.00%

The privileged group of students who are in the popular schools have received a substantial percentage of professionally qualified teachers like other facilities creating vast disparities among the disadvantaged group. Approximately 98% of national schools operate with professionally qualified teachers while the number of provincial schools is very low. Similarly, 1AB schools and schools with a large number of students function with a higher percentage of qualified teachers than the other schools. Accumulation of qualified teachers into popular schools can be considered as an effective way of teacher distribution on one hand since it can cater to a large number of students.

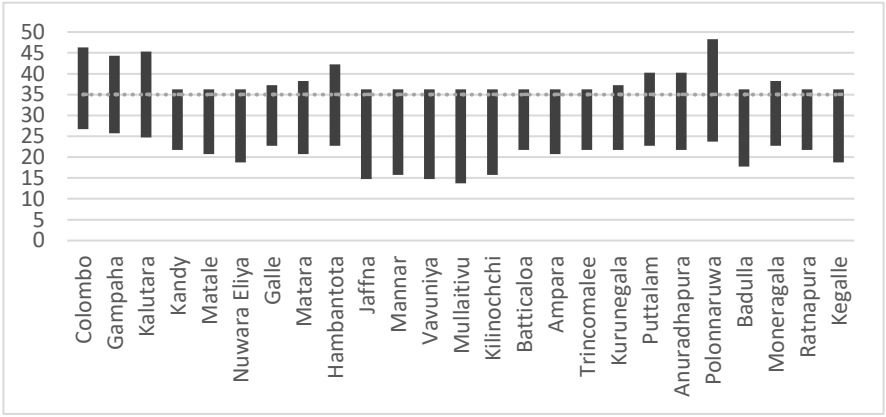


Figure 2: *PTR (Lower end) and PPTR (Upper end) based on norms of calculating teachers for primary grades in districts*

The number of students per professionally qualified teacher ratio (PPTR) is higher than the norm in 11 districts out of the 25 districts though PTR is lower than 35 in all districts. A considerable number of unqualified teachers are in Colombo, Gampaha, Kalutara, Hambantota and Polonnaruwa districts compared to other districts.

Professionally qualified Primary teachers in Sri Lanka is lower than the other regions of the world. Further, the professionally qualified teachers are serving in the popular schools creating disparities among the disadvantaged schools.

Impact on teacher allocation and professionalism on students' performances

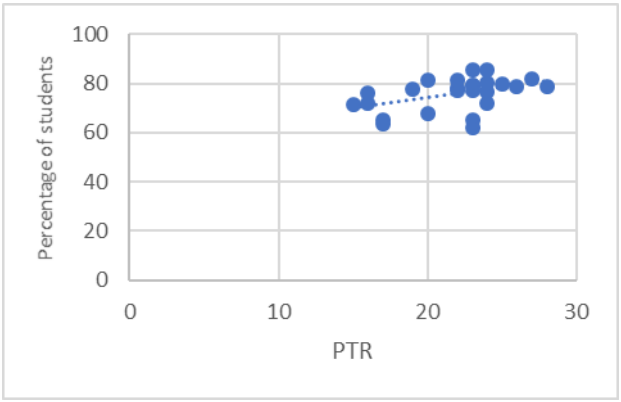


Figure 3: *Percentage of students having 70 marks based on average STR in districts vise*

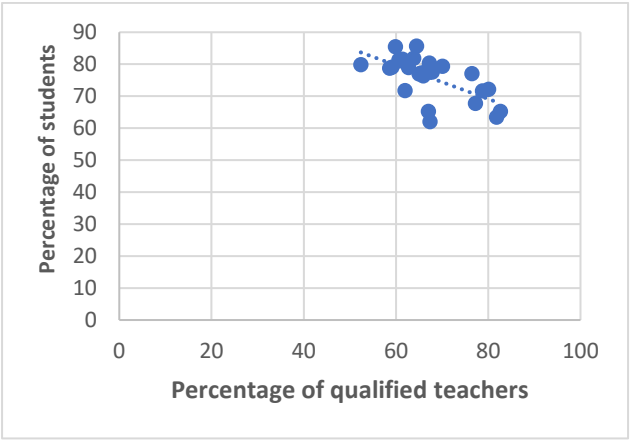


Figure 4: *Percentage of students having 70 marks based on Percentage of qualified teachers in districts vise*

Upon initial inspection, a noticeable correlation emerges between Students' performance and average PTR, exhibiting a positive relationship, while a negative correlation is observed with the percentage of qualified teachers. The coefficient of determination (R^2) of the average PTR and percentage of professionally qualified teachers

of the districts with the percentage of students who obtained 70 marks for the grade 5 scholarship examination are respectively 0.200 and 0.329. It reveals that only 20% of the students' performance depends on the PTR and only 32.9% of students' performance depends on the percentage of qualified teachers while the rest is due to other various factors. However, approximately PTR range of 22-27 shows a high performance compared to the low or high PTR. The reason for this trend may be the influence of diverse contextual elements such as inter-district disparities in socio-economic conditions on students' performance which are beyond the singular influence of teacher factor.

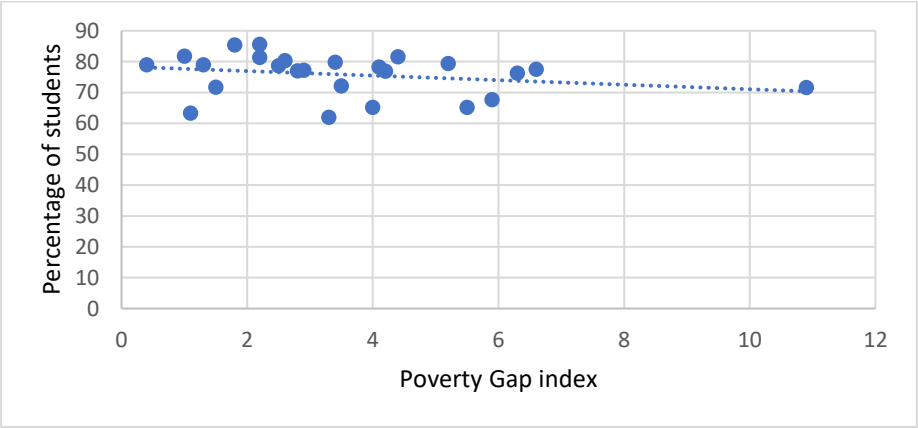
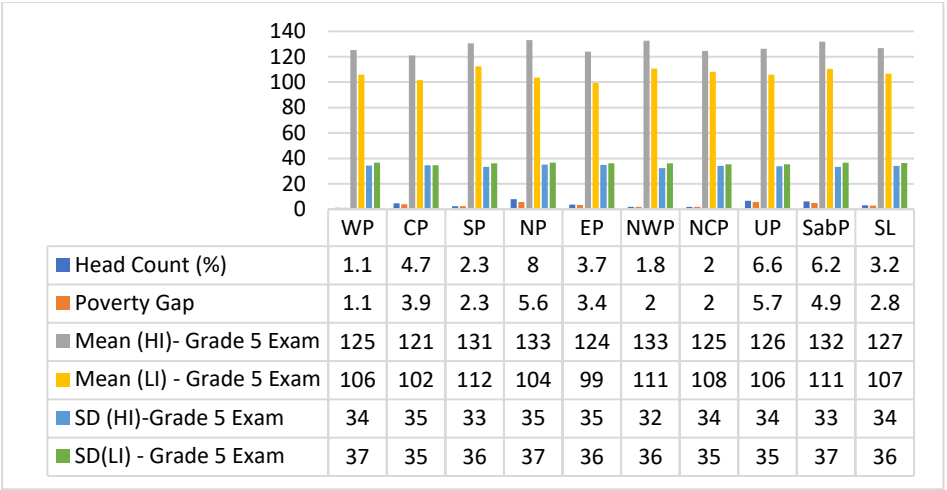


Figure 5: *Percentage of students having 70 marks vs poverty gap index*



	WP	CP	SP	NP	EP	NWP	NCP	UP	SabP	SL
Head Count (%)	1.1	4.7	2.3	8	3.7	1.8	2	6.6	6.2	3.2
Poverty Gap	1.1	3.9	2.3	5.6	3.4	2	2	5.7	4.9	2.8
Mean (HI)- Grade 5 Exam	125	121	131	133	124	133	125	126	132	127
Mean (LI) - Grade 5 Exam	106	102	112	104	99	111	108	106	111	107
SD (HI)-Grade 5 Exam	34	35	33	35	35	32	34	34	33	34
SD(LI) - Grade 5 Exam	37	35	36	37	36	36	35	35	37	36

Figure 6: *Students' performance in Grade 5 scholarship examination 2019 & poverty*

Analysis of the highest performing schools out of the schools with more than 20 students' participation for the grade 5 scholarship examination, shows that there is a positive relationship with the percentage of qualified teachers and PTR. Approximately 58% of the high-performing schools exhibits a professionally qualified teachers value greater than the national average of 65%. Further, nearly 60% of the high-performing schools have a PTR value between 25-35. It proved that overcrowded or under-crowded classrooms are unsuitable for facilitating ideal student learning.

Poverty is one of the most powerful factors in student performance. As shown in Figure 5 and Figure 6, there is a negative relationship between poverty and performance. Though the average performance of the students is low in NP, performance in a high-income category is very high with a low PTR and high professionally qualified teacher percentage. Therefore, it is evident that PTR and

professionally qualified teacher percentage has control to influence students' performance with other influential factors.

It is evident that an optimal PTR is essential for enhancing students' academic performance, and both over-crowded and under-crowded classes are not favourable for learning. Teacher competencies are related to the academic performance of students. However, In Sri Lanka, contextual factors also have considerable influence on students learning.

CONCLUSION

A satisfactory quantity of teachers is in the primary sections of the current education system in Sri Lanka, and they are allocated among the schools mainly based on the students' population.

This deployment follows established norms and criteria, showing minimal deviations across provinces, districts and school types. As a result, the average PTR of Sri Lanka is similar to the world average and middle-income country average. However, a small percentage of teachers are underutilized and an insignificant percentage of teachers are overutilized compared to their workload.

While an adequate number of primary teachers are present within the system, a significant proportion lacks the qualifications necessary for primary teaching. The percentage of qualified primary teachers are minimal compared to the other regions of the world due to recruiting untrained teachers for the education system during the previous decades. Moreover, there are disparities that can be seen among the geographical locations and school types in terms of

professionally qualified teacher allocation. PTR and teacher professionalism are related to students' performance. There is a positive relationship between professionally qualified teacher percentage and student performance. The optimum level of PTR is vital for improving the quality of education since overcrowded or undercrowded classrooms are not suitable for effective learning. However, other influential factors also contribute largely to students' achievement in Sri Lanka with heterogenic socio-economic conditions.

RECOMMENDATIONS

The teacher deployment should be done based on the current policies considering the specific context in geographical locations. However, the school system needs to be rationalized using the scientific school mapping technique, ensuring cost-effective resource allocation. Moreover, schools with a very small number of students in closer proximity can be merged considering the geographical and transport facilities and teachers can be allocated accordingly to reduce the underutilization of the teaching workforce.

Norms and criteria on teacher deployment have to be reviewed in maintaining optimum class size in line with the curriculum reforms, enabling to promote an activity-based and blended learning methods. A sound teacher deployment plan covering all provinces needs to be implemented using revised norms and criteria.

Since there is a large number of untrained teachers serving in the system, quality in-service training programmes need to be introduced immediately. In-service fast-track initiatives should be introduced to train unqualified teachers and the annual intake for pre-

service teacher education institutions should be expanded, enabling more qualified teachers for primary education in the future. Strengthening the capacity of In-service Advisors (ISAs) is a must, as they are supposed to supervise and coach untrained teachers.

REFERENCES

Balasooriya, B. M. Jayantha. (2012). Teacher recruitment and teacher mobility in Sri Lanka. In Commonwealth Secretariat (Ed.), *Commonwealth Education Partnerships 2012/13*. Cambridge: Nexus Strategic Partnerships.

Dhushyanth, R. (2016). Working Paper on Public School Teacher Management in Sri Lanka: Issues and Options. World Bank.

Herath, T. N. (2020). Allocation of Teachers Among Public Schools and Minimization of Cost: The Case of Public Education in Sri Lanka. *Asian Journal of Comparative Politics, 1–12*.

Joseph, K., Waita,., Onesmus, K., Kitoo, M., Mueni, B., Mutune, M., & Kalai, J. (2016). Pupil Teacher Ratio and its Impact on Academic Performance in Public Primary Schools in Central Division, Machakos County, Kenya. *European Journal of Education Studies*. Retrieved from https://oapub.org/edu/index.php/ejes/article/download/96/233

Mulkeen, A., Ratteree, W., & Voss-Lengni, I. (2017). Teachers and teacher policy in primary and secondary education: Discussion Paper. GIZ, Germany.

Ministry of Education. (2021). Circular on Defining of Academic Cadre for the School (Circular No: 06.2021). MoE, Sri Lanka.

Nizamettin, K., & Bekir, C. (2015). The impact of number of students per teacher on student achievement. *Science Direct, 1877 428*. Retrieved from https://www.researchgate.net/publication/275670865_The_Impact_of_Number_of_Students_per_Teacher_on_Student_Achievement

Onukwu, J. (2019). Utilization of the Primary School Teachers in Ogun Central Senatorial District, Nigeria. Retrieved from https://www.researchgate.net/publication/341049470_Utilization_of_the_Primary_School_Teachers_in_Ogun_Central_Senatorial_District_Nigeria

OECD. (2021). *Education at a Glance 2021: OECD INDICATORS*. OECD Paris.

Torsten, F. (2018). Misallocation of State Capacity? Retrieved from http://etheses.lse.ac.uk/id/eprint/3852

Thompson, A. R. (1995). The utilization and professional development of teachers: Issues and strategies. Paris: UNESCO/IIEP.

World Bank. (2023). World Bank data. Retrieved from https://databank.worldbank.org

Wehella, M. M., & Balasooriya, B. M. J. (2014). Free education policy and its challenges: Sri Lanka. In Commonwealth Secretariat (Ed.), *Commonwealth Education Partnerships 2014/15*. Cambridge: Nexus Strategic Partnerships.

Williams, P. (1979). Fundamentals of education planning: Planning teacher demand and supply. Paris: UNESCO/IIEP.

A STUDY ON THE CURRENT PRACTICES AND RELATED ISSUES OF NON-FORMAL EDUCATION IN THE SOUTHERN PROVINCE OF SRI LANKA

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ABSTRACT

Education significantly contributes to elevating living standards and advancing human development. However, in Sri Lanka, there are certain obstacles to overcome. For instance, approximately 2% of eligible students do not enrol in school, and during compulsory education, around 7% drop out. Non-Formal Education (NFE) emerges as a flexible solution addressing these gaps globally. In Sri Lanka, NFE began in the 1970s, aiming to provide a second chance to those who missed out on formal education. The research focused on the current status, challenges, and potential improvements of NFE in the Southern province, underscoring the need for inclusive and equitable education for all. A non-experimental, mixed-method approach is employed in this study to investigate the challenges faced by project officers in implementing NFE programs in Sri Lanka's Southern Province. Primary data were collected through cross-sectional surveys, concept mapping, and focus group interviews and secondary sources included document reviews and progress reports. The study includes both quantitative and qualitative data, aiming for triangulation to ensure comprehensive insights into NFE program implementation. Participants were selected through stratified sampling, with each district in the province being represented. The study employs a multifaceted data analysis approach guided by thematic analysis of concept maps, focus group interviews, and document analysis. The results revealed that there have been implemented 22 activities under the NFE in the Southern province and 21,725 people have benefited. It also revealed the main issue of the compulsory education programme was the lack of

recognition of low achievement by students in schools and inadequate funding for the NFE courses and the community programmes. These findings suggested that every school should pay more attention to the low-achieved students and create a sustainable foundation for NFE courses and community programmes.

Keywords: Non-formal Education, Compulsory Education, Community programmes

INTRODUCTION

Education plays a major role in improving living standards, enhancing human development, advancing equity, and upward social mobility, and strengthening democracy, and political decision-making. Therefore directing all students in the age of compulsory education (5 – 16 years) to school education is a policy of Sri Lanka. However, in the national context, only 98% of eligible students have enrolled in formal schools and the remaining 2% do not for various reasons. Not only that, nearly 7% of children enrolled in school drop out of the school system annually during the compulsory education period (UNICEF Sri Lanka, 2013).

In that context, Non-Formal Education (NFE) targets three main groups: those who have never enrolled school, those who have left school early and those who have completed school in search of further learning opportunities. Therefore all these personnel should be provided opportunities for lifelong learning and learning to be. The prime objective of NFE is to guide the education of all those groups. Ideas of NFE were set out for what was to become a widely read analysis of the growing 'world educational crisis' (Coombs, 1968). The emergence of the NFE is mainly due to the weakness of formal education; such as inadequate curriculum, mismatch between educational growth and economic growth, realizing that employment does not directly result from the school educational inputs. As well as many countries are finding it difficult (politically or economically) to

bear the expenditure for expanding the formal education (Smith, 2001).

It is increasingly recognized that schools alone cannot provide a quality basic education for 'all'. The global progress made towards Education for All (EFA) since the World Education Forum in 2000 has arguably been significant, particularly concerning enrolment and gender parity at the primary level. Yet, there are more than 57 million children of primary ages were out of school worldwide in 2011. At least another 69 million young adolescents are not attending primary or secondary school, due to the multiple and often inter-connected disadvantages they face, such as poverty, rural location, gender biases, disability, and social discrimination (UNESCO, 2015).

Moreover, the current structure of formal education in many countries in itself excludes specific groups of children. To uphold the right to education of those who are not enrolled in schools, diverse forms of provision through different learning pathways are required. NFE is one such pathway. Under the theme "Towards inclusive and equitable quality education and life-long learning for all" of Sustainable Development Goal (SDG) – target 4 is to achieve at least 90% of youths and adults have the knowledge and skills for decent work and life through technical and vocational, upper secondary and tertiary education and training with particular attention to gender equality and the most marginalized by 2030 (UNO, 2015). Characterized by a high degree of flexibility and openness to change and innovation in its

organization, pedagogy, and delivery modes, NFE caters to diverse and context-specific learning needs of children, young people, and adults worldwide (Yasunaga, 2014).

As per Shaeffer (1992), the significance of the NFE has been articulated in the following manner: *"Now more than ever, the ability of humankind to face the challenges of the day — economic development, health, and the environment, in peace and democracy — is in serious question. To meet such challenges, the nature of education provided to the youth of the world must be changed, and its quality, deteriorating in many parts of the world, must also be improved. However; attempts to do this should not lead to the neglect of the continuing education of the parents of these youth and the adult population of the world in general. It is they who need to be able to adapt most immediately to the conditions of poverty, disease, natural disaster, and war over which they have little control. And it is they, in the limited areas of choice available to them, who are today making the individual and collective decisions that will affect the nature of population growth, health status, environmental preservation, community stability, and family productivity in the future. Their actions — both reactive and proactive — will be better informed to the extent that they are shaped by effective non-formal education programmes and informal learning processes able to teach people not only how to cope with and adapt to change, but also how to stimulate and control it."* (Page no. 7)

In the 1990s education has come to the forefront of the development debate. Human resource development through education and training has been recognized by development planners as a vital element in the overall process of development. Wherein, both developed and developing countries paid their attention again from a new perspective to NFE as a powerful medium that can be reached for all communities to develop their personal, professional and social life (Bandara, 2004). There is no other force that has influenced education and development in the recent past than NFE (Ekanayake, 2016).

In the Sri Lankan context, NFE work as a special activity of the Ministry of Education started in the 1970s. There were four programmes namely, full-time and part-time Technical units, Weekend English schools, and adult education programmes of various types including those for prisoners. The main objective was to give a second chance to those who failed to reap the full benefits of formal Education to acquire knowledge and skills and also by helping them to change their attitudes in a manner that is personally and socially desirable (Iddamalgoda, 1979). Besides all these programmes there is an unemployed population of 377,987 which gives an unemployment rate of 4.6% in 15 years and over population in Sri Lanka (Director General of Census & Statistics, 2016).

In accordance with the Southern Provincial Statute of Education: *"Southern Provincial Department of Education should have responsibility for implementing the Non-formal Education*

programmes for children, adults, school leavers, children with special skills and others who are not in the formal education stream according to the National Education policies and trends"(Chief Minister, Southern Province, 2009; Page no. 1303).

At present, eight distinct activities are falling under the umbrella of Non-formal Education, which are overseen by the Provincial Department of Education in the Southern province. These activities are carried out by both zonal and divisional Education offices. They encompass a range of initiatives, including need assessment surveys, fundamental literacy initiatives, functional literacy programs, adult literacy programs, personality enhancement programs, vocational training programs, consultancy services, and awareness campaigns (SPED, 2021). The researcher, who previously held the role of Education Administrative Officer for the Southern province, was responsible for planning, executing, and supervising the entire educational process, including Non-formal Education (NFE). It became evident on multiple occasions that various challenges were hindering the effective implementation of the Non-formal Education program. Consequently, the following objectives were addressed.

Research Objectives

The research aims to thoroughly examine the current status of Non-formal Education in the Southern province, including program diversity and reach. Additionally, it seeks to uncover the challenges faced by project officers, ranging from logistical to

pedagogical issues. Ultimately, this research intends to provide insights for policy decisions, program enhancements, and resource allocation, with the goal of improving NFE in the Southern province.

Therefore, this research explicitly focuses on the following research objectives.

1. Examine the present situation of NFE in the Southern province
2. Identify the currently implemented practices related to the NFE in the Southern province
3. Identify the difficulties and issues faced by the officers who are responsible for the Non-formal Education programmes
4. Explore the expected support to the responsible officers of NFE from the provincial authorities

LITERATURE REVIEW

2.1 Introduction of NFE

Non-formal education (NFE) is a diverse and adaptable educational concept that has been approached from various angles in educational literature. It has been described using multiple terms, including "open systems," "distance learning," "non-conventional studies," "alternative education," "adults' education," "community education," and "people's education." While these terms are sometimes used interchangeably, there is often a lack of consensus on their precise meanings and concepts. Consequently, there is a need for a more precise definition and classification of these terms

to facilitate a better understanding and practical application of NFE (Dib, 1988).

One foundational definition of NFE, proposed by Kleis (1973), characterizes it as an intentional and systematic educational endeavour, typically outside traditional schooling. NFE is distinguished by its adaptation of content to meet the unique needs of students or specific situations, with an emphasis on maximizing learning while minimizing administrative elements commonly associated with formal education. Unlike formal education, which tends to be teacher-centered, NFE is more learner-centered, necessitated by the fact that learners have the freedom to leave when unmotivated. NFE often offers a cafeteria-style curriculum with choices, as opposed to the prescribed, sequential curriculum found in formal schools. The human relationships within NFE are typically more informal, with flexible roles for teachers and students, in contrast to the hierarchical and rigid roles found in formal school settings. Additionally, NFE focuses on practical skills and knowledge, whereas formal education often emphasizes information that may have delayed application (Etllng, 1993).

According to UNESCO (1997), non-formal education is defined as organized and sustained educational activities that do not precisely conform to the definition of formal education. These activities may vary in duration and may or may not confer certification. The Council for Europe (2000) recognizes that formal educational systems alone cannot adequately address the challenges of modern society. Therefore, non-formal education is

essential as a complementary partner in lifelong learning, accessible to all individuals. Non-formal education and informal learning together form the foundation for fostering a critical and enduring attitude: the desire to continue learning throughout life.

Non-formal education manifests in various forms, including part-time "second chance education" for those unable to attend regular classes, youth clubs with educational objectives, adult and continuing education programs, community education initiatives, and personal development programs encompassing cultural, language, fitness, and sports activities. Furthermore, it extends to professional and vocational programs targeted at the unemployed and workforce development. In the developing world, non-formal education encompasses a wide range of areas, from literacy and numeracy programs to youth group and social development, community mobilization, gender issues, and practical skills training in fields such as agriculture, healthcare, and small-scale business development (Latchem, 2010).

Ogono (2000) highlights the multifaceted contributions of NFE to society. NFE provides numeracy and literacy to citizens who have not had the opportunity to engage in formal education or have dropped out before completion. It offers diverse learning services for unskilled and semi-skilled workers, corrects distortions arising from the formal school system, fills gaps created by formal education, and serves as a means of socialization and the preservation of traditional culture. Additionally, NFE fosters innovation and provides an organized educational activity outside

the formal system. Four key characteristics associated with non-formal education are relevance to the needs of disadvantaged groups, a focus on specific categories of individuals, clearly defined purposes, and flexibility in organization and methods.

Non-formal education's recognition has grown over the past half-century, primarily due to its flexibility, adaptability to various environments, capacity to deliver rapid results, and cost-effectiveness. In particular, NFE programs have achieved notable success in addressing literacy education and skill development, especially in developing countries.

In conclusion, non-formal education encompasses a wide spectrum of educational activities characterized by their adaptability, learner-centeredness, and practical focus. It plays a crucial role in addressing diverse educational needs and fostering lifelong learning, making it an essential component of modern education systems (Dharmasena, 2002; Ekanayake, 2014).

2.2 Theoretical underpinning of the study

Non-formal education (NFE) principles emphasize the importance of understanding individual learning processes and addressing the unique needs and barriers faced by learners (Garbauskaitė-Jakimovska, 2020). In NFE environments, it is crucial to apply relevant learning theories that are suitable for adult learners. Several learning theories have proven applicable to adult and non-formal education settings, including action learning

theory, experiential learning theory, project-based learning theory, and self-directed learning theory.

Action learning theory involves using real-life projects or problems as a means of learning, where participants work collaboratively in small groups to take action to solve these challenges and learn from their actions. Experiential learning theory focuses on learners' experiences as the primary source of learning, emphasizing hands-on, practical learning experiences. Project-based learning theory encourages learners to work together to solve complex, authentic problems, allowing them to decide their approach and activities. This approach involves gathering information from various sources, synthesizing it, and deriving knowledge from the process. Self-directed learning theory places the responsibility for learning on the individual, who takes charge of diagnosing their learning needs, setting goals, identifying resources, implementing strategies, and evaluating outcomes.

In the context of the Southern province, the application of these learning theories is essential to examine and enhance current epistemological and pedagogical practices related to NFE. This examination should involve a critical review of the existing practices and a careful consideration of how these theories can inform and improve NFE programs. By adopting an approach that aligns with these theories, NFE in the Southern province can be better tailored to meet the diverse learning needs of adult learners and effectively promote lifelong learning.

In summary, the integration of relevant learning theories into NFE practices is vital to address the unique characteristics of adult learners and create effective educational experiences. The study in the Southern province underscores the importance of re-evaluating and potentially redefining current epistemological and pedagogical practices to better promote NFE and ensure its relevance and effectiveness in the province (Olaniyi, 2015).

2.3 Policy Context, Current Practices and Programmes of NFE

Non-formal education (NFE) has a relatively recent origin, gaining prominence during World War II (Ekanayake, 2014). In Sri Lanka, the Non-Formal Education branch of the Ministry of Education was established in the mid-1970s to address the educational needs that were not met by the formal education system. This initiative has played a crucial role in various fields, including literacy, agricultural extension, and health education.

The development of NFE in Sri Lanka can be traced back to the establishment of the "Janatha Education Programme" in 1976. This program encompassed several key activities: Part-time Vocational Training: Vocational training was provided in the evening through in-school workshops and laboratories, with duration of six months. The target audience included various interest groups such as farmers, unemployed youth, mothers, and the self-employed. Literacy Programs: These programs targeted illiterate adults and school dropouts, aiming to provide them with essential literacy skills. English Language Programs: Youth were provided with

English language education, facilitating their language skills development. Over the years, these programs have evolved and diversified. New initiatives such as Community Learning Centers (CLCs), Residential Centers for street children, and special programs for re-engaging early school leavers have been introduced. The implementation of these programs is facilitated by a cadre of officers known as Non-Formal Project Officers, who are university graduates holding non-teaching positions. They are responsible for organizing NFE programs at the education divisional level.

Several factors support the need for NFE programs in Sri Lanka, including the demand for diversified skills and labour specialties, expanding community needs that cannot be accommodated within the formal education system, and the capacity of the non-formal mode to cover various concepts taught in formal schools. In the current Sri Lankan context, NFE programs cater to young people over the age of 16; disadvantaged individuals aged 16-24, and adults seeking new skills or employment opportunities. The 13th Amendment to the Constitution devolved the implementation of NFE programs, with the Ministry of Education playing a coordinating role and providing leadership to provincial authorities.

The Ministry of Education has introduced ten different NFE programs to serve the community. These programs encompass a wide range of areas, including basic and functional literacy, community learning centers (CLCs), support for street children

(NANASARANA Program), income-generating programs (IGP) with technical courses, community awareness initiatives, literacy programs for foreign employee women, compulsory school-age children's education, entrepreneurship education development, and skills development programs for NFE professionals. These initiatives collectively reflect the Sri Lankan government's commitment to addressing diverse educational needs and fostering community development through non-formal education, emphasizing both basic skills and practical vocational training (MOE, 2018).

2.4 Related issues of NFE

Bandara (2004) has highlighted various issues related to non-formal education (NFE) from different perspectives, including those of participants, instructors, and project officers.

2.4.1 Participants' Perspectives:

Participants in Non-Formal Education (NFE) programs encounter various challenges that impact their learning experiences. One significant issue is the inadequacy of facilities in NFE centers, leaving learners without the resources needed to meet their educational needs. Additionally, participants find the instruction lacking clarity and structure, potentially hindering their progress. The absence of necessary aids and equipment further affects the quality of education. Limited course availability raises concerns about addressing diverse educational needs. Some participants question the relevance and value of courses, while unsatisfactory benefits leave them wanting more. Moreover, the

perceived theoretical nature of NFE content often lacks practical applicability, underscoring the need for improvements in NFE program design and delivery.

2.4.2 Instructors' Perspectives:

Instructors involved in Non-Formal Education (NFE) programs have encountered several challenges. One significant issue is the inadequate course duration, which they believe hampers their ability to effectively impart knowledge and skills to participants. Furthermore, instructors express concerns about the limited community awareness of NFE programs, which can negatively impact participation and support. Another critical concern is the unsatisfactory benefits participants receive upon completing these courses. Instructors highlight the need for improved support from the Ministry of Education and Provincial Departments to enhance NFE programs. Addressing these issues is essential to ensure the success and effectiveness of NFE initiatives in the communities.

2.4.3 Project Officers' Perspectives:

Project officers engaged in Non-Formal Education (NFE) programs grapple with a myriad of challenges. Firstly, the absence of clear government policies for effective NFE program development hampers their efforts. Additionally, poor community participation in Income Generating Programs (IGPs) obstructs the success of these initiatives. Managing Community Learning Centers (CLCs) is complicated due to the absence of responsible individuals or committees. Recruiting qualified instructors proves

difficult due to a shortage of skilled professionals, worsened by insufficient payments, affecting teaching staff quality. Coordination among NFE providers suffers, leading to resource wastage. An information gap on target groups and programs hinders planning. Moreover, inadequate attention to capacity development and limited official support exacerbate program challenges, all exacerbated by the lack of a coherent policy framework.

In conclusion, the issues related to NFE in Sri Lanka span a wide range of concerns, from participant dissatisfaction to challenges faced by instructors and project officers. A concerted effort is needed to address these issues, including policy development, resource allocation, capacity building, and improved coordination among stakeholders, to ensure that NFE programs effectively meet the educational needs of the community (Bandara, 2004).

2.5 Suggestions for the future success of NFE

The expansion of Non-Formal Education (NFE) programs to cater to individuals over 16 years old and those deprived of formal educational opportunities or who have dropped out of formal education is a key strategy for promoting lifelong learning and improving access to education (MOE, 2006). This expansion should encompass both academic and practical skills, acknowledging the diverse educational needs of the target audience. To achieve this, the National Institute of Education (NIE) should take a leading role in personnel and program development,

while the development of national plans and guidelines should be the responsibility of the Central Authority, the Ministry of Education (MOE, 2006).

The implementation of NFE programs falls under the purview of Provincial Ministries through the Provincial Departments of Education, as mandated by the 13th Amendment to the Constitution. However, a coordinated approach is essential to avoid duplication and resource wastage, which can be achieved through the MOE's coordination of the National NFE program. Community Learning Centers (CLCs) play a vital role in ensuring equitable access to quality NFE. These centers can be stationed within schools, fostering strong community-school ties and providing essential resources and amenities. To support this, curricular and learning material development for NFE should be decentralized and localized.

Despite these efforts, several challenges persist. Inadequate facilities, unclear instruction, and the lack of necessary aids and equipment hinder the quality of NFE programs. Participants also voice concerns about the limited course offerings and the relevance of courses. Unsatisfactory benefits and overly theoretical content further affect the appeal and effectiveness of NFE initiatives. To address these challenges, a comprehensive information base on various organizations providing NFE should be established and shared among implementing agencies. Additionally, capacity development programs for NFE personnel should be prioritized, and the role of NFE Project officers should be regularized.

Moreover, the MOE (2006) suggests a series of strategies and policy directions to enhance alternative education and vocational training opportunities for school leavers and out-of-school children. These strategies include strengthening consultative processes, establishing linkages with vocational and labor force development institutions, raising awareness of vocational training opportunities, and promoting entrepreneurship and self-employment skills.

In conclusion, expanding and improving NFE programs is crucial for ensuring access to education for marginalized and out-of-school individuals. Effective coordination, decentralized approaches, and capacity building are essential elements in achieving these goals and addressing the challenges faced by NFE programs. Moreover, the involvement of community, public, and private sector stakeholders is vital for the success of these initiatives (Bandara, 2004).

METHODOLOGY

The research design employed for this study is non-experimental and utilizes a mixed-method approach, as recommended by Johnson and Onwuegbuzie (2004) and Denscombe (2008). This design incorporates a cross-sectional approach with a survey method, employing an ex post facto design. The concurrent triangulation mixed-method approach, as suggested by Creswell et al. (2003), was applied to combine quantitative and qualitative data. This approach provides a comprehensive understanding of the existing situation, obstacles,

and concerns faced by officers during the implementation of Non-formal Education (NFE) initiatives in the Southern Province.

The implementation of non-formal education programs in the Southern Province is directly coordinated by non-formal education project officers. These officers are university graduates and are assigned non-teaching positions to organize and coordinate non-formal education programs at the education division level. They are appointed at the divisional level in each Zonal Education Office. Among these project officers, the research sample was selected to represent each district using stratified sampling.

To determine the current state of Non-formal Education, three quantitative variables were examined: the schooling progress of out-of-school children, physical progress, and financial progress. These variables were derived from the annual progress review report of the Southern Provincial Department of Education.

Additionally, two qualitative variables were explored, encompassing practices associated with the implementation of NFE programs and the challenges and issues encountered by NFE project officers. The textual data for these variables were collected through participants' concept maps related to NFE and focus group interviews.

Both quantitative and qualitative data were collected simultaneously, although one type of data may have been given greater emphasis over the other at certain stages of the research

process. The concurrent triangulation design was chosen to leverage both types of data to enhance the accuracy of defining relationships among the variables of interest (Castro et al., 2010). By integrating both quantitative and qualitative data, the study aims to offer a robust analysis and a deeper insight into the multifaceted aspects of the NFE program. This ensures that the findings are comprehensive, contextually relevant, and reflective of the real-world experiences of the project officers.

Table 1: *Population and Sample*

District	Education Zone	Population	Sample
Galle	Ambalangoda	3	3
	Elpitiya	5	-
	Galle	4	3
	Udugama	3	3
Matara	Akuressa	3	3
	Matara	4	3
	Morawaka	3	-
	Mulatiyana	4	3
Hambantota	Hambantota	5	3
	Tangalle	3	3
	Walasmulla	2	2
Total		39	26

3.1 data collection instruments

The study employed three distinct instruments for data collection:

1. **Concept Mapping:** Concept mapping was utilized as the initial data-gathering technique, wherein individuals visually represented connections between concepts, elucidating the nature of these relationships through written explanations (Gowin, 1984).
2. **Focus Group Interviews:** To complement the concept mapping method, focus group interviews were conducted to acquire in-depth information. Focus group interviews were chosen as a complementary approach to enhance the insights gained from concept mapping (Gundumogula & Gundumogula, 2020).
3. **Document Analysis Schedule:** The third instrument employed in this study was a document analysis schedule. Document analysis is a qualitative research methodology through which researchers interpret documents to provide insight and meaning to a particular subject of investigation (Bowen, 2009). Within the context of this research, annual progress review reports served as the primary documents for analysis. These reports are considered public records—official, ongoing records documenting an organization's activities (O'Leary, 2014).

3.2 Data collection procedure

During the data-gathering phase of this study, participants were first divided into nine groups according to the zone.

Participants were then acquainted with the researcher's background and the research itself. They were briefed on the research's objectives and ethical considerations to establish rapport. The procedures for constructing concept maps were explained to the participants, who were then allowed to construct a sample concept map on a familiar topic. Following discussions about their sample concept maps with the researcher, participants were instructed to construct their concept map about the NFE program implemented by their team in the zone. This included details about the services provided, client diversity, courses and programs, implementation locations, timelines, advisors, supervisors, problems encountered, solutions proposed, and authorities involved. Participants were then encouraged to review and expand their maps creatively.

After drawing their maps, each participant group participated in focus group interviews based on their maps. Nine focus group interview sessions were conducted according to the selected education zones. The focus group interviews were recorded and transcribed as soon as possible. The 2019 annual progress report of the Southern Provincial Department of Education was analyzed in parallel with the construction of concept maps and focus group interviews.

3.3 Data analysis

The data analysis process in this study was comprehensive and multifaceted, involving the examination of data gathered from concept mapping and focus group interviews, both individually and in conjunction. During the interviews, participants from various

groups elaborated on their concept maps, offering valuable insights, practices, and experiences related to the NFE program. The textual data derived from these concept maps and interviews were subsequently organized around thematic categories generated through a thorough review of existing literature, the annual progress report, and careful analysis of the concept maps and focus group interviews. The interviews played a crucial role in triangulating the data extracted from the concept map drawings. The synthesis of data involved amalgamating information from participants' concept maps and their interview narratives, which were then subjected to analysis by the study's specific objectives. This analysis encompassed both quantitative and qualitative approaches, tailored to the nature of the data and its alignment with the study's research objectives.

RESULTS AND DISCUSSION

In analysis, based on the specific objectives data were categorized under the following themes, which were generated by reviewing the literature, the annual progress report and analysing the data of the concept maps and the focus group interviews.

4.1 Present situation of Non-formal Education in Southern province

The present situation has been presented under the following three themes; Progress of schooling of out-of-school children, physical progress and financial progress. These themes were identified by reviewing the annual progress report - 2019 of the Provincial Department of Education (Southern Province).

4.1.1 Progress of schooling of out-of-school children

In 2019, within the educational guidelines mandated in the Southern province, a total of 268 students were enrolled in schools, and an additional 219 students were enrolled in literacy classes. This enrolment was part of an effort to address the educational needs of a group of 596 out-of-school children, as detailed in Table 2.

Table 2: *Progress of schooling of out of school children in the Southern Province*

Category	Children identified as out of school in ages 5 -16	Children admitted to literacy classes		Children admitted to school from out-of-school							Children, who didn't admit to school or literacy classes after the identification	
		Total	Percentage	From non-	From drop-outs	From detention	From literacy	Among the	Total	Percentage	Total	Percentage
Number	596	219	36.74 %	94	173	6	6	6	268	44.97 %	109	18.29 %

4.1.2 Physical progress

In 2019, a total of 22 activities were carried out in the Southern province as part of the Non-Formal Education (NFE) program, with the specific details of these activities and the number of participants outlined in Table 3.

Table 3: *Physical progress of NFE in the Southern Province - 2019*

	Activity	Number of Activities	Number of Participants
1	Vocational courses for school leavers and adults (08 months)	68	1222
2	Vocational courses for school leavers and adults (06 months)	148	2401
3	Short-term interest courses	157	1776
4	Entrepreneurship training camps for course followers and school leavers	19	1116
5	Career guidance programs for course followers and school leavers	15	1253
6	Leadership training and awareness camps for unemployed youths	7	472
7	Language proficiency courses for school leavers and adults	43	865
8	Exhibitions and evaluations of creative works of courses	8	2412
9	Capacity development programs	8	162
10	Programs for prisoners	44	880
11	Income generating programs for adults	2	27
12	Survey of out of school/ irregular-school attending/ illiterate children	86	-
13	Providing basic facilities for schooling who didn't go to school due to economic difficulties	3	112

14	Leadership and literacy camps for the personality development of children	12	522
15	Strengthening of compulsory education committees	25	1699
16	Aware the parents of out-of-school/ irregular-school attending/ illiterate children	45	2711
17	Literacy classes for out-of-school children	75	1468
18	Reading centers	21	240
19	Celebration of Literacy Day	17	1385
20	Celebration of other special days	6	454
21	Awareness of the relevant parties for the implementation of compulsory education regulations	6	257
22	Training of literacy instructors	3	291
	Total	818	21725

4.1.3 Financial progress

In the Southern province for the year 2019, funding for Non-Formal Education (NFE) was derived from two different financial sources. A breakdown of the allocation and expenditure specifics can be found in Table 4.

Table 4: *Financial progress of NFE in Southern Province- 2019*

Description	Allocation (Rs.)	Expenditure (Rs.)	Percentage
Provincial budget	30,322,000.00	25,569,982.00	84.33
Line Ministry budget	850,050.00	772,300.00	90.85
Total	31,172,050.00	26,342,282	84.51

4.2 Practices related to the implementation of NFE programs in Southern Province

4.2.1 Compulsory Education

Practices within the realm of compulsory education are elucidated through the following thematic areas identified by reviewing the literature and analysing the data of the concept maps and the focus group interviews.

Regulations:

The Non-Formal Education (NFE) mechanism plays a pivotal role in upholding compulsory education regulations, specifically in accordance with the Compulsory Attendance of Children at Schools Regulations No. 1 of 2015. These regulations stipulate that every parent, with children aged between five and sixteen, is responsible for ensuring their child receives an education through consistent attendance at a school unless they have made alternative suitable provisions for their education. Furthermore, these regulations call for the establishment of a School Attendance Facilitating Committee within each School Feeder Area.

School Attendance Facilitating Committee:

A School Committee, as per these regulations, comprises various members appointed by the Zonal Director of Education. This Committee includes the school principal as the Chairperson, heads of primary and secondary sections, two teachers, two prefects, two parents, and two past students. The School Committee's responsibilities encompass gathering information regarding compulsory education-age children residing in the identified feeder area who are not attending school regularly,

facilitating their school attendance, identifying students with irregular attendance patterns, assessing the reasons for such behaviour, and supporting their consistent attendance. Additionally, the Committee assists in creating an environment that fosters effective learning, organizing programs for students with unsatisfactory performance, and conducting awareness initiatives within the school feeder area. The School Committee is also authorized to seek assistance from relevant bodies such as the school development society, school development committee, and teacher trainers. It reports its findings on children's attendance issues and the progress of follow-up actions to the Monitoring Committee on a regular basis. Furthermore, the School Committee compiles a report, including a list of compulsory education-age children not attending school or lacking suitable educational provisions, which is submitted to the Monitoring Committee.

Compulsory School Attendance Monitoring Committee:

The regulations also dictate the establishment of a Compulsory School Attendance Monitoring Committee for each Education Division. This Monitoring Committee, appointed by the Provincial Director of Education, comprises various stakeholders, including the Divisional Director of Education of the relevant educational division (as Chairperson), the Deputy/Assistant Director of Education responsible for Primary Education, the Deputy/Assistant Director of Education in charge of non-formal education, a project officer-in-charge of non-formal education in the relevant Educational Division, a senior officer representing the Divisional Secretary, a child protection and psychosocial officer

from the Divisional Secretary's Division, an officer from the Children and Women's Bureau, and two representatives from voluntary organizations. The Monitoring Committee is entrusted with overseeing the School Committee's functions, ensuring their proper execution. In cases where the School Committee exhibits inactivity, the Monitoring Committee takes steps to reactivate it. The Monitoring Committee assesses the report received from the School Committee, offering its remarks, and notifies parents to ensure their children attend school within four weeks. In instances of noncompliance, the authorized officer or designated personnel conduct inquiries into the reasons for the child's non-attendance. Moreover, the NFE project officers, affiliated with the divisional education office, conduct surveys on children who are not admitted to schools, have dropped out, or exhibit irregular school attendance at the *Grama Niladhari* division level. Following these surveys, NFE project officers take necessary actions, including enrolling children in schools or literacy classes based on their literacy levels. Continuous monitoring of these children's attendance and targeted awareness campaigns for children and parents are integral components of these efforts.

4.2.2 Non-formal Education courses and Community programmes

The methodologies applied to describe the practices in the realm of Non-Formal Education (NFE) courses and community programs involved a comprehensive examination of existing literature, an assessment of the annual progress report, and the analysis of data obtained from concept maps and focus group

interviews. These methodologies have yielded the following descriptions.

NFE Courses:

These programs are tailored to cater to middle-aged youths, adults with limited prior educational opportunities, and housewives seeking enhanced life prospects. Short-term and long-term vocational courses are conducted within Community Learning Centers (CLCs), utilizing various facilities such as school buildings in the afternoon and temples, religious centers, and other community spaces. The duration of these courses varies based on the content, spanning from 16 days to 6 or 8 months. Course offerings encompass a wide array of subjects, including literacy, computer literacy, handicrafts, cake making, fabric painting, sewing, cooking, beauty culture, hairdressing, patchwork, lace knitting, embroidery, and more. NFE project officers bear the responsibility of selecting qualified instructors to lead these courses. Oversight and supervision are provided by the deputy/assistant directors responsible for non-formal education in the relevant zones. The annual implementation plan of the provincial department of education allocates funds for instructors' fees and the procurement of raw materials and equipment for CLCs. Some courses also serve as Income Generating Programs (IGPs), designed to equip participants with income-generating skills and foster self-employment. These IGPs additionally generate revenue by selling products derived from the knowledge acquired during the courses.

Community Programs:

Two categories of literacy classes are conducted: basic courses and functional literacy classes. Basic literacy programs are primarily aimed at promoting literacy within the illiterate segments of society. Moreover, literacy programs are specially designed to enhance the literacy levels of street children (*Nana Sarana*), providing them with improved literacy skills before transitioning them into formal schools and facilitating their adaptation to the formal educational environment. Functional literacy programs focus on developing practical skills essential for day-to-day activities. Special programs for prisoners are also offered to foster literacy and vocational skills. Language courses in English, Tamil, and Japanese are included within the NFE curriculum. Additionally, one-day programs are organized to enhance skills in areas such as health and nutrition, leadership, attitudes, values, and entrepreneurship. Furthermore, these initiatives include the commemoration of special days, such as International Literacy Day, Adults' Day, Children's Day, and other occasions aimed at enriching the community's attitudes and knowledge.

4.3 Difficulties and issues faced by the officers who responsible for NFE programs in Southern Province

4.3.1 Compulsory Education

Various obstacles and concerns emerge in the sphere of Compulsory education, each categorized into specific themes that were identified through a review of existing literature and an analysis of data from concept maps and focus group interviews.

Student-related Difficulties:

One prominent concern pertains to students who have experienced recurrent dropout incidents due to persistently low academic performance. Upon their re-entry into the educational system, these students often find themselves placed in classes based on their achievement levels. However, this grouping doesn't align with their chronological age or physical development, causing discrepancies when compared to their peers in the same class.

Family-related Challenges:

Family-related issues also contribute to difficulties in ensuring compulsory education. Some children, compelled by economic necessity, contribute to their family's income, leading to their reluctance to attend school. Others take on the responsibility of caring for younger siblings, further hindering their access to education. Family disputes may lead to parental neglect of their children's education. Additionally, the frequent migration of estate workers to their workplaces disrupts the educational stability of their children. Furthermore, the lack of birth certificates, often due to unmarried parents, prevents some children from enrolling in schools.

School-related Obstacles:

Issues within schools themselves compound the challenges. Certain principals and teachers may exhibit negative attitudes towards low-achieving students, leading to their refusal to admit these children. Inadequate capacity within special education units beyond regular classrooms hinders the enrolment of special needs

children. Students residing in remote and arduous-to-reach areas face reluctance in attending school due to the long and challenging commute, especially under harsh weather conditions. Language barriers further deter some students, as near schools may lack instructional mediums in their mother tongue.

Financial Assistance Shortages:

Finally, a lack of sufficient financial assistance exacerbates the predicament for economically disadvantaged families. These families struggle to afford essential school supplies and facilities for their children. Moreover, parents of special needs children often lack the financial means to arrange specialized transportation services, adding an additional layer of difficulty to their children's school attendance.

4.3.2 Non-formal Education courses and Community programmes

Non-formal education courses and community programs encounter a myriad of challenges across several key dimensions.

Participants-related Challenges:

One significant issue arises in relation to the participants themselves. A substantial number of individuals who initially enrolled in these courses fail to complete them, underscoring the need for more effective strategies to retain participants. Furthermore, there is a notable absence of timely counselling arrangements to address the needs of these participants, potentially contributing to their attrition.

Human and Physical Resources Obstacles:

Another pressing concern revolves around the availability of human and physical resources. Securing the services of experienced and qualified instructors proves to be a challenge, primarily due to financial constraints. Additionally, the provision of necessary equipment, resources, and new technology required for these courses falls short of what is needed. The lack of facilities to establish a systematic information system about the programs further compounds these resource-related issues.

Raw Materials and Market-related Difficulties:

Raw materials and market-related challenges also come into play. The absence of systematic arrangements to provide raw materials at concessionary prices hampers the sustainability of these courses. Furthermore, the absence of a proper marketplace for participants to sell their products limits their economic opportunities and success.

Officers-related Issues:

Issues concerning project officers within the non-formal education sector warrant attention. These officers face a range of challenges, including the absence of a proper service minute or promotion scheme, resulting in salary anomalies and reduced motivation. Moreover, the absence of a recruitment policy to fill vacancies left by retired officers further disrupts the continuity of leadership within the sector. A lack of a structured monitoring and performance appraisal system exacerbates these difficulties, hindering the officers' ability to carry out their duties effectively.

Addressing these officers' concerns is crucial for the success of non-formal education and community programs.

4.4 The expected support to the responsible officers of NFE from the provincial authorities

4.4.1 Compulsory Education

To secure the achievement of compulsory education, diverse types of assistance are imperative and can be classified into the following fundamental topics, which were established through a thorough examination of existing literature, and an analysis of data derived from concept maps and focus group interviews.

Teaching Strategies:

One crucial aspect involves the development of effective teaching strategies. Schools should be directed to implement specialized catch-up programs for children who have dropped out of school, with a focus on reintegration as soon as possible. Teachers should be provided with guidance on offering individualized attention to students with low achievement levels, tailoring their instruction to address specific needs. Furthermore, there is a pressing need for the enhancement of remedial teaching strategies that cater to students with diverse achievement levels, ensuring that no child is left behind.

Physical Resources:

Equitable access to physical resources is vital in supporting compulsory education. Efforts should be made to provide school books and necessary equipment to economically disadvantaged children, thereby removing barriers to their education as stipulated under the compulsory education regulations.

Transportation:

To ensure accessibility for all, transportation arrangements should be facilitated for children with special needs. This proactive measure enables these students to attend school without facing undue difficulties related to mobility.

Public Awareness:

Creating awareness about compulsory education regulations among the public is of utmost importance. Effective communication through media channels can help inform the broader community about the significance of compulsory education, thereby garnering support and understanding. Additionally, the establishment of boarding schools in remote and challenging-to-reach areas can provide a solution for children who face geographical barriers, ensuring they have access to quality education.

4.4.2 Non-formal Education courses and Community programmes

To bolster the effectiveness of Non-formal Education (NFE) courses and Community programs, a comprehensive approach involving various forms of support is essential across several key areas.

Financial Allocation, Equipment, Facilities, and Technology:

Firstly, it is imperative to increase the financial allocation for NFE initiatives. Adequate funds are essential to sustain and expand these programs. Simultaneously, provision should be made for necessary equipment and facilities to enhance the quality of

courses. The integration of new technology into NFE programs can further modernize and improve their accessibility and effectiveness.

Supply of Raw Materials and Setting up Marketplace:

Ensuring a smooth supply of raw materials at reasonable prices is critical for the sustainability of NFE courses. Moreover, the establishment of a marketplace to sell products generated from income-generating programs can enhance economic opportunities for participants. Introducing online marketing platforms can significantly expand the reach and impact of these programs.

Sharing Expert Knowledge and Coordination with National-Level Institutes:

To further enrich NFE initiatives, arrangements should be made to share expert knowledge and best practices related to these programs. Collaboration with national-level institutes can provide valuable consultancy services, ensuring that NFE courses and community programs align with the latest educational trends and standards.

Establishing a Recruitment Policy for Project Officers:

Creating a recruitment policy for project officers is crucial for the seamless continuity of leadership within NFE programs. This policy should outline clear career paths and incorporate a proper promotion scheme to motivate and retain project officers. Additionally, resolving salary anomalies is essential to maintain a motivated and competent workforce.

Flexible Scheduling:

Recognizing the diverse needs of learners, NFE programs should adopt a flexible scheduling approach. This flexibility enables individuals to join programs at convenient times or alternate periods, accommodating their employment and other commitments effectively.

Public Awareness:

Finally, raising public awareness is paramount. Utilizing media channels to disseminate information about NFE courses and community programs is essential to familiarize these initiatives among the public, garner support, and promote their importance in enhancing educational opportunities and economic development.

CONCLUSIONS AND RECOMMENDATIONS

The findings derived from the examination of compulsory education regulations in the Southern province for the year 2019 reveal noteworthy insights. In that year, 268 students (44.97%) gained admission to schools, while 219 students (36.74%) were enrolled in literacy classes from a total of 596 out-of-school children. Furthermore, 22 activities were executed under the Non-Formal Education (NFE) initiative in the Southern province, benefiting a total of 21,725 individuals. The financial allocation for NFE in the Southern province in 2019 amounted to Rs. 31,172,050.00, with a total expenditure of Rs. 26,342,282.00, representing 84.51% utilization. To enforce compulsory education regulations, committees facilitating school attendance have been established. However, the main challenge identified in the

compulsory education program pertains to the insufficient recognition of low-achieving students in schools, alongside the impact of poverty and other factors on compulsory education participation. The NFE programs also face challenges, including the recruitment of experienced instructors, provision of necessary resources and technology, and inadequate funding.

In light of these findings, several recommendations emerge. Schools should prioritize low-achieving students and implement extensive remedial teaching strategies to bolster compulsory education. Efforts should be directed towards providing educational assistance to all non-school-going children, particularly through the introduction of a financial support scheme for economically disadvantaged students to meet their schooling needs. Special needs children should have access to transportation arrangements to ensure their school attendance.

To establish a sustainable foundation for NFE courses and community programs, there is a need for comprehensive reforms. This involves equipping NFE professionals with the necessary skills and resources, enabling them to function effectively within NFE centers. Additionally, the development of a systematic information system for NFE is crucial for program management. Robust monitoring mechanisms for NFE should be established, accompanied by counselling programs for NFE participants. Public awareness campaigns through media channels should be implemented to promote NFE programs effectively.

Lastly, the pivotal role played by project officers should be recognized and addressed. Vacancies in project officer positions should be filled through a structured recruitment process, and career paths should be established to motivate and retain these essential personnel. By implementing these recommendations, it is possible to enhance the effectiveness of compulsory education and NFE programs, thereby advancing educational access and quality in the Southern province.

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REFERENCES

Bandara, L.M. K. (2004) A Study on the Current Practice of the Non- formal Education Programmes in the Community Learning Centres in Sri Lanka; A dissertation submitted to degree of Master of Education, e-repository, Research and Publications, University of Colombo, Sri Lanka. Retrieved from http://hdl.handle.net/70130/2188

Bowen, G. A. (2009) Document analysis as a qualitative research method; Qualitative Research Journal. 9(2), 27-40. Retrieved from doi: 10.3316/QRJ0902027

Castro, F. G., Kellison, J. G., Boyd, S. J., & Kopak, A. A. (2010) Methodology for Conducting Integrative Mixed Methods Research and Data Analyses. Journal of Mixed Methods Research. 2010 Sep 20; 4(4):342-360. Retrieved from doi: 10.1177/1558689810382916. PMID: 22167325; PMCID: PMC3235529.

Chief Minister, Southern Province (2009) Education Statute of Southern Province No 05 of 2008, The Gazette of the Democratic Socialist Republic of Sri Lanka dated 17.07.2009 (IV A) Department of Government Printing

Coombs, P. (1968). *The World Educational Crisis*, New York, Oxford University Press.

Coombs, P. & Ahmed, M. (1974) *Attacking Rural Poverty*, Baltimore: The John Hopkins University Press, 1974, p.8

Creswell, J. W., Plano Clark, V. L., Gutmann, M. L., & Hanson, W. E. (2003). Advanced Mixed Methods Research Designs. In A. Tashakkori, & C. Teddlie (Eds.), Handbook of Mixed Methods in Social and Behavioral Research (pp. 209-240). Thousand Oaks, CA: Sage.

Dharmasena, N. (2002) *Literacy and Non-Formal Education for Poverty alleviation* (Sinhala); Warakapola, Ariya Prakashakayo

Dib C. Z. (1988) Formal, non-formal and informal education: concepts/applicability, Published in Cooperative Networks in Physics Education - Conference Proceedings 173", American Institute of Physics, New York, pp. 300-315

Director General of Census & Statistics (2016) Quarterly report of the Sri Lanka labour force survey Quarterly Report – 2016 Second Quarter; Department of census & statistics, Ministry of national policies and economic affairs department of census & statistics, Ministry of National Policies and Economic Affairs , Battaramulla, Retrieved from

http://www.statistics.gov.lk/samplesurvey/2016Q2report.pdf

Eaton S.E. (2010) Formal, Non-formal and Informal Learning: What Are the Differences? Retrieved from https://drsaraheaton.wordpress.com

Ekanayake, S.B. (2014) Non-formal education: Strategy to face modern day Development challenges; Education Perspectives, 2014, 1(1), 45 – 66, Ministry of Education, Battaramulla

Ekanayake, S.B. et al. (2016) Study on Development of Special Education and Non-formal Education_(Research Series 2014 – No. 10) A Research conducted for the National Education Commission Nugegoda National Education Commission Retrieved from http://nec.gov.lk/wp-content/uploads/2016/04/10-Final-.pdf

Etllng, A. (1993). What is Non-formal Education? Journal of Agricultural Education; The Pennsylvania State University Retrieved from http://pubs.aged.tamu.edu/jae/pdf/Vol34/34-04-72.pdf

Garbauskaitė-Jakimovska, J. (2020) Non-formal education principles; Retrieved from https://www.trainerslibrary.org/non-formal-education-principles/

Gundumogula, M. & Gundumogula. M. (2020) Importance of Focus Groups in Qualitative Research. International Journal of Humanities and Social Science (IJHSS), 2020, 8 (11), pp.299-302. ff10.24940/theijhss/2020/v8/i11/HS2011-082ff. ffhal-03126126f

Iddamalgoda, D.S. (1979) Spotlight on two years of Non-formal Education; Adult Education news: Sri Lanka Vol. 1 No. 2 June 1979

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: a research paradigm whose time has come. Educ. Res. 33, 14–26. doi: 10.3102/0013189X033007014

Kleis, J., Lang, L., Mietus, J.R. & Tiapula, F.T.S. (1973). Toward a contextual definition of non-formal education, Non-formal education discussion papers, East Lansing, MI: Michigan State University, pp. 3-6

Latchem, C. (2014). Informal learning and non-formal education for development, Journal of Learning for Development, 1(1), Retrieved from http://bit.ly/Nw4ZH6.

Minister of Education (2016) The Education ordinance (Chapter 185), The Gazette of the Democratic Socialist Republic of Sri Lanka (Extraordinary) No. 1963/30 dated 20.04.2016 (Part 1: Section I) Department of Government Printing

Ministry of Education (2006) Education Sector Development Framework and Programme (ESDFP) Planning and Performance Review Division Ministry of Education Isurupaya, Battaramulla Sri Lanka

Ministry of Education (2018) Non-formal and Special Education Programmes of Sri Lanka, Non-formal and Special Education Division Ministry of Education Isurupaya, Battaramulla Sri Lanka

National Committee for Formulating A New Education Act for General Education (NCFNEAFGA) (2009) New Education

Act for General Education in Sri Lanka Context, Issues and Proposals Final Report

Ngaka W., Openjuru G., & Mazur R. E. (2012) Exploring Formal and Non-formal Education Practices for Integrated and Diverse Learning Environments in Uganda Retrieved from https://www.researchgate.net/publication/260907345

Novak, J. (1998). Learning, creating, and using knowledge: Concept maps as facilitative tools in schools and corporations, Mahwah, NJ: Lawrence Erlbaum Novak and Cañas (2006)

Olaniyi, F. O. (2015) The Relevance of Learning Theories in Adult and Non-Formal Education Journal of Educational and Social Research, January 2015, 5 (1) 261 -264, MCSER Publishing, Rome-Italy

O'Leary, Z. (2014). The essential guide to doing your research project (2nd ed.). Thousand Oaks, CA: SAGE Publications, Inc.

Shaeffer, S. F. (1992). Collaborating for educational change in non-formal basic education: report of an IIEP seminar and workshop, Nairobi, Kenya, 21-29 January 1992; International Institute for Educational Planning

Smith, M. K. (2001). 'What is non-formal education? *The encyclopedia of informal education*, Retrieved from http://infed.org/mobi/what-is-non-formal-education/

Southern Provincial Department of Education (SPED) (2021) Annual implementation plan -2021

Southern Provincial Department of Education (SPED) (2019) Annual progress review report of Non-formal Education - 2019

UNESCO, (2015). Education for all 2000-2015: achievements and challenges UNESCO Publishing Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000232205

UNICEF, Sri Lanka (2013) Out-of-School Children in Sri Lanka: Country Study; Colombo United Nations Children's Fund (UNICEF) Sri Lanka Retrieved from https://www.unicef.org/education/files/Sri_Lanka_OSS_Summery.pdf

United Nations organization (UNO) (2015) Sustainable-development-goals; Retrieved from http://www.un.org/sustainabledevelopment/sustainable-development-goals/

Yasunaga, M. (2014) Non-formal Education as a means to meet learning needs of out-of-school children and adolescents The background paper commissioned by the Report Team, composed of the UNESCO Institute of Statistics (UIS) and the United Nations Children's Fund (UNICEF), Retrieved from http://allinschool.org/wp-content/uploads/2015/01/OOSC-2014-Non-formal-education-for-OOSC-final.pdf

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