



## TRANSFORMING EARLY LEARNING: STRATEGIES FOR ENHANCING PRE-SCHOOL EDUCATION IN NUAPADA, ODISHA

Jayanti Majhi\* Dr. Swapnashri Patnaik\*\*

\*Ph.D. Research Scholar, Kalinga Institute of Social Sciences (Deemed to be University), Bhubaneswar.

\*\*Assistant Professor, Department of Home Science, KISS Deemed to be University, Bhubaneswar.

### Abstract

The Research was conducted in early childhood Environments, where the predominant practices were child-initiated activities and unstructured play. In a guided inquiry process, Practitioners and Researchers collaborated with staff to create and execute Technology-based interventions in their playrooms. The type of adult assistance required to improve young children's learning is referred to as guided interaction. In this work, we provide a more detailed definition of guided interaction that takes into account both proximal and distal interactions, along with our research findings regarding the learning that occurs in children and practitioners when adults actively assist learning.

Communication and understanding require language, and acquiring a second language can be difficult. English has become a universal language, and pupils whose mother tongue is not English find it more difficult to learn a second language. The idea of ESL, or English as a Second Language, is fundamental to the Indian educational system. The process of learning a second language is influenced by a variety of factors, including attitude, motivation, self-confidence, and exposure to the language, learning surroundings, location, family history, and the availability of experienced teachers.

The purpose of this Research is to identify the primary sources of problems and draw attention to the obstacles that preschoolers in the Nuapada area of Odisha face when trying to learn. The goal of the study is to identify the challenges faced by students from diverse backgrounds in the classroom. The results show that because of the social and socioeconomic differences between students attending government and private schools, kids from both private and public schools have a variety of issues, including hesitations when speaking and reading.

The use of e-Shishu as an example highlights the importance that technology plays in education. In an effort to close social and gender gaps at the primary and elementary school levels and to attain universal enrolment, retention, and achievement, the Indian government launched the Sarva Shiksha Abhiyan (SSA) framework.

**Keywords:** Pre-school, Child-initiated activity, Indian educational system, Qualified Teachers.

### 1. Introduction

#### 1.1. Overview of Primary Education Industry

NGOs utilize a variety of different techniques. Some people devote the most of their time to organizing and carrying out activities and programs, while others are lobbyists. For instance, Oxfam, which is an organization that aims to alleviate poverty, might provide those who are in need with the resources and the information necessary to seek food and water that is safe to drink. It is necessary for non-governmental groups to have positive relationships with the general population in order for them to accomplish their goals. In order to raise funds, charitable organizations and foundations employ sophisticated public relations methods and traditional lobbying tactics with regards to government.



There is a possibility that interest groups are significant in politics due to the fact that they have the ability to influence both social and political results (Argaman, 2007).

The governments of the countries in which a non-governmental organization (NGO) operates or is registered may require the organization to submit reports as well as other forms of monitoring and supervision. In most cases, funders require reporting and assessment; yet, it is possible that the general public does not always have access to this information. There is also the possibility of the existence of associations and watchdog groups that are responsible for conducting investigations and disseminating information regarding the activities of non-governmental organizations that are active in particular regions or program areas. Over the past few years, a number of prominent firms have increased the size of their corporate social responsibility departments in an effort to counteract the efforts of non-governmental organizations (NGOs) that criticize particular business practices.

### **1.2.Orissa School and Mass Education: an Overview**

When it comes to laying the groundwork for a society that is founded on information, the education that is provided in schools is an essential area that requires significant focus. Both the federal government and state governments have been investigating issues that are related to education in schools as part of their efforts to ameliorate the situation of society. Since the beginning, the objective in the state of Orissa has been to ensure that all citizens have access to contemporary education that is centered on the acquisition of skills and is closely matched with the ever-changing requirements of both the domestic and global economies. It is the intention of the state's literacy improvement activities to take into consideration certain contextual factors during the planning process, with a special focus on accommodating the socially and economically disadvantaged as well as rural people. In accordance with the second Millennium Development Goal, initiatives are being developed to enhance access, maintain retention, and provide children who are enrolled in the educational system with an education of superior quality. A dream is something that every child possesses, but according to the educational aim statement of the state, the majority of the time, that dream is shattered. To their dismay and displeasure, young people find themselves in a workplace and bonded to diverse situations. This is a situation that they find themselves in. At a time when youngsters should be playing, they are sold into slavery through a purchase. The planning and execution of projects are currently underway with the goals of increasing enrollment, maintaining student enrollment, and developing dropout and non-school education programs. Research is also being done on innovation systems and the impact of information technology in the context of globalization. At the age range of six to fourteen, there were 409 participants. The ultimate objective of the e-Government Strategy has been to devise strategies and techniques for achieving the e-Government Vision, which is to improve the quality of governance and, as a result, contribute to the accomplishment of the objectives that the State of Orissa has set for the advancement of its human and economic resources. The second Millennium Development Goal (MDG 2) aims to attain universal primary education by the year 2015. In this context, "Early Childhood Care Education," the universalization of basic education, a reduction in the percentage of students who drop out of school, and the promotion of the Sarva Shiksha Abhiyan are elements that are considered to be significant (Geijsel et al., 2003). All of the aforementioned characteristics are united under the system of e-governance in order to enhance quantity and standardize quality in order to meet the requirements that are imposed by globalization. Orissa receives financial assistance for schooling and mass education from a variety of organizations, including the World Bank, the Department of Foreign Affairs and Development (DFID), the United Nations Children's Fund (UNICEF), and the American India Foundation Trust.



As is the case with Madhya Pradesh and Chhattisgarh, Orissa appears to be a significant state in India that has seen significant transformations in relation to the increase in the literacy rate over the course of a decade (410 Liberalizing Research in Science and Technology: Studies in Science Policy). Orissa, on the other hand, has the lowest literacy rate among the states that are considered to be larger. A literacy rate of 63.61% in Orissa is equal to the average literacy rate of 65.38% across the entirety of India. Despite this, there are major geographical variances between the areas and the villages. The percentage of people who are literate within the age range of seven years and older is 63.61%. In light of the fact that children younger than seven years old are not expected to learn the alphabet, the age at which this activity is considered to be complete is seven years old and older. It is estimated that 50.97% of women and 75.95% of males are literate (Bidwell, 1965). Of all the districts, Malkangiri has the lowest percentage of people who are literate, which is 31.26 percent. The districts of Malkangiri (21.28%) and Nabarangpur (21.02%) have the lowest rates of female literacy in the country. Khurda district, which includes Bhubaneswar city, has the highest literacy rate, with 80.19% of the population being literate. As well as having the greatest rate of female literacy, this district has the highest rate of 71.06%. There is no doubt that the inclusion of the state capital in the statistics has an effect on the high literacy rates that are found in the Khurda geographic region. Following closely after Khurda is the district of Jagatsinghpur, which has a literacy rate of 79.61% and is under the authority of the Orissa Primary Education Programme Authority (OPEPA) and the Directorate of Elementary Education. The District Primary Education Programme (DPEP), which is a program that is centrally sponsored and has a funding split of 85.15 percent between the federal government and the state, was implemented in the state in the academic year 1996–1997 with the intention of achieving the aim of universalizing elementary education by the year 2010. The Directorate of Secondary Education, the State Council for Educational Research and Training (SCERT), and the Director of Teachers Education are the three organizations that are responsible for overseeing secondary schools. The Department of Higher Education is in charge of Higher Secondary (+2) Education, in contrast to the Departments of Education in other states. As a result of the low literacy rate and educational backwardness in eight districts—Bolangir, Kalahandi, Rayagada, Gajapati, Dhenkanal, Bargarh, Keonjhar, and Sambalpur—Project DPEP was initially undertaken with assistance from the World Bank between the months of December 1996 and June 2003. There was a price tag of 229.75 crore associated with the project. From 2001 to 2008, the Department of Foreign Affairs and International Development (DFID) provided assistance to eight DPEP Extension Districts. These districts included Boudh, Kandhamal, Koraput, Malkangiri, Mayurbhanj, Nawarangpur, Nuapada, and Sonepur. A price tag of 313.80 crore was attached to the project altogether. There are a total of 63125 schools, with 46722 primary schools (classes 1 through 5) and 16403 upper primary schools (up to class 7). Primary schools are the most common type of school. For example, non-formal education offered by non-governmental organizations (NGOs) and village education committees, in addition to private institutions, is included here (Gigante & Firestone, 2008). Schools that have been merged into one another and possess facilities that are suitable for teaching primary, upper primary, and secondary classes have been allowed to function as autonomous institutions. As of the year 2007, there are 7408 high schools located inside the state. According to the Economic Survey Report for the 2007–2008 school year, it is projected that the total enrollment in elementary school (classes 1–7) will be 63.02 lakhs, while the total enrollment in high school (classes VII–X) is estimated to be 13.52 lakhs. According to the student teacher ratio for the state, there are 39.3 students in primary sections, 49.92 students in upper primary sections, and 21.79 students in secondary sections for every teacher. The alarming dropout trend, on the other hand, continues to exist in the sense that the rate of dropouts rises with increasing class level. Students who belong to Scheduled Castes have an even greater rate of dropping out of school. children



who belong to the Scheduled Tribe category have the greatest rate of dropping out of school when compared to children who belong to the general and scheduled caste categories (Zinn, 2008).

## 2. Early Learning Strategy for Pre School

The task of lowering the percentage of children who drop out of primary education is a significant one for developing countries. A lack of motivation, the distance between the home and the school, the lack of interest on the part of the parents, poverty, the necessity of working in the fields as workers during harvest seasons, the absence of teachers in the schools, and difficulty in taking tests are all possible factors. An initiative known as "e-shishu" was initiated by the government of Odisha, India, with the purpose of incorporating technology into the educational curriculum. The success of this pilot program can be attributed to Mr. Madhudhan Padhi, who served as the secretary of the state government at the time. Through the use of this case study, we illustrate the benefits that have been garnered to a wide variety of stakeholders, and in the conclusion, we have developed a strategic framework. There is the potential for other governments to be able to reproduce the strategic framework that was responsible for the success of this implementation program.

At the present day, the fundamental right to receive an elementary education is extended to each and every kid between the ages of six and fourteen. For this to be possible, it is necessary to keep track of each and every child in the state. According to the findings of a survey that was carried out in October of 2005, all homes were surveyed, and information pertaining to children between the ages of 0 and 14 was gathered. On the other hand, one hundred percent of households were unable to provide information because of unanticipated circumstances, such as the absence of a guardian during the survey. India, a developing nation, is working toward achieving a literacy rate of one hundred percent despite the challenges it encounters in basic education. Due to the difficulties associated with maintaining the quality of education in rural areas and ensuring that children from disadvantaged backgrounds continue to attend school, the implementation of universal obligatory primary education has proven to be a struggle. Additionally, the Ministry of Human Resource Development in India is in charge of all educational levels, from primary to higher, and it is responsible for providing significant financing from the government. There are, nevertheless, attempts being made to make higher education fairly self-sufficient in terms of funding (Yu et al., 2002).

Within the context of the eighth five-year plan, the objective of "universalizing" elementary education was broken down into three primary categories: universal achievement, universal retention, and universal access. These include ensuring that students continue their education, giving them with access to educational opportunities, and finally achieving the goals that have been set at the end of the process. Through various educational programs, at the end of the year 2000, 94 percent of India's rural population had access to elementary schools within one kilometer of their homes, and 84 percent had access to upper primary schools within three kilometers of their homes. Particular efforts were made to enroll women and persons who were classified as SC/ST. Since the first five-year plan was implemented, there has been a substantial rise in the number of pupils who are enrolled in primary and upper-primary schools. During the school year 2002–2003, it is expected that 82% of children between the ages of 6 and 14 were enrolled in school. Increasing this to one hundred percent by the end of the decade is a goal that the Indian government has set for itself. With the intention of achieving this goal, the government initiated the Sarva Shiksha Abhiyan (SSA).



The Sarva Shiksha Abhiyan (SSA), which is the flagship initiative of the Indian government, has the objective of achieving the universalization of elementary education within a time-bound manner. This is in accordance with the 86th amendment to the Indian Constitution, which states that children between the ages of 6 and 14 have the right to receive an education that is both free and mandatory. All children will have access to primary education at a sufficient level of quality by the year 2010, according to the program plans. "e-Shishu" is the name of the project. The primary purpose of the project was to construct a database that would keep a record of every kid registered in the state of Orissa. A total of over 8 million survey forms were anticipated to be collected through door-to-door household surveys, which were intended to be used for the purpose of gathering the information. Individuals' names, ages, educational backgrounds, and other information would have been gathered for every child from birth up until the age of fourteen. The Orissa Primary Education Programme Authority (OPEPA) was the organization that initially sponsored the project, which was initially launched in the state of Orissa. The State Government of Orissa initiated the electronic program known as "e-Shishu," which is a web-based system that allows for the tracking of every child in the state. The purpose of this program is to comply with the Social Security Administration (SSA), ensure that every child is enrolled in school, and improve the educational status of primary level students in Orissa (Wong & Cheung, 2009).

## 2.1. Project E-Sishu and Child Tracking

### Objectives

One of the projects for Enhancing Pre-school Education in Nuapada, Odisha is e-Shishu was developed in order to fulfill the requirements of schools and teachers in terms of providing up-to-date information on students, teachers, and tribal regions. This information includes children in the village who are still not enrolled in school, children who are enrolled in school, the percentage of students who attend class, and the absenteeism of teachers. A list of children who are not attending school for a variety of reasons, the degree of success of each child, the group of children in the village who are targeted for admission to the school, the identification of minority children in the state, and the children who use computers to access the facilities are all included in the list.

Project e-Shishu was designed to achieve the three basic goals, they are:

**Access:** By monitoring the out-of-school youngsters based on their age and the reason they are absent, remove them from school and reintegrate them into the regular curriculum.

**Retention:** by keeping track of the students enrolled in the program and giving them the information they need to stay there.

**Quality of Education:** By monitoring children's academic progress and implementing remedial actions to improve it, The Child Tracking System (CTS) is used to keep track of every child between the ages of 0 and 14 based on their name, gender, caste, date of birth, and educational status (whether or not they are enrolled in school). The children and preschoolers in each and every community are subjected to monitoring and evaluation (Stensaker et al., 2008). The generation of a database containing 10.5 million children between the ages of 0 and 14 years old has been accomplished with the use of Intelligent Character Recognition (ICR) technology. Following that, the web-based software that is used by CTS is meant to generate standardized reports that can be viewed through the website that was previously mentioned. These reports may then be utilized in a variety of OPEPA interventions to carry out SSA/DPEP operations that are related to schools, teacher training, and students. Standard Child



Codes are given to each and every child so that they can be followed in the years that come after they are originally issued. Every year, the CTS database is brought up to date. During the process of validating and updating the database, innovations that are required are carried out (Powell & DiMaggio, 1991). One example of this is the addition of the percentage of marks received in each in-school child's annual exam. This information is acquired and entered into the database. The academic achievement of students throughout the course of their time at a school can be used as a measurement of how accountable teachers are. Modules of training are provided to teachers according to the level of achievement they have achieved. An individual's class, the name of their school, the proportion of marks they received on the most recent examination, their attendance rate, and other information are used to identify children who are enrolled in school. The children who are considered to be "out of school" provide an explanation for their absence from school, regardless of whether they are currently enrolled or have dropped out. Preschool status is a collection of information that pertains to a child who is between the ages of 0 and 6 who is currently enrolled in preschool.

## **2.2. Community Mobilization and Participation**

Community organizations at the grassroots level, such as VECs, PTAs, and MTAs, were established and strengthened in Orissa through the implementation of initiatives under the SSA/DPEP program. These initiatives were implemented in each of the state's thirty districts. These community-based organizations were given authority, duty, and resources as a result of the Social Security Administration. A number of activities, including micro planning, school mapping, and civil works, have been carried out by the VECs. These activities include the creation of the school environment and the supply of uniforms (Gioia, 1986). With the implementation of a multitude of programs, para teachers have been granted increased ability to connect with students, and this trend of power devolution is still occurring. A VEC guide that details all of the procedures that take place at the VEC level was compiled and distributed. This year, fresh training was provided to 301402 VEC members, which is equivalent to 95% of the total. A full briefing on SSA operations was given to 3220 participants in the PRI. In order to provide assistance to the education of girls, MTAs were created and trained in schools. There was an awareness campaign that included a radio phone-in and a teleconference. In the process of developing the GP education strategy, the PTA, MTA, and VEC all became involved and contributed actively. Display boards for the school can be found at various spots throughout the campus. a documentary video about the model MTA and VEC was developed and released. In an effort to foster accountability and transparency, the school board displays the names of teachers, as well as their qualifications, photographs, and tenure histories respectively. Display boards for the school can be found at various spots throughout the campus. In accordance with the resolution number 673/SME issued by the government on October 10, 2008, the VEC was granted the authority to monitor attendance and approve the performance of Sikhya Sahayakas and Para instructors (Gioia & Thomas, 1996).

## **2.3. Pedagogical Activities and obtained Results**

Pedagogical activities are geared toward the capacity building of all teachers in order to promote active learning for all learners in the age range of 6–14, regardless of gender or social category. This is accomplished with the assistance of academic resource structures such as DIET, BRC, and CRC through the implementation of effective curricular practices. The initial phase in this strategy has been the formation of the Resource Group at the State, District, and Block levels, as well as the empowerment and strengthening of that group. There were 42 innovative members of the State Resource Group who planned educational initiatives such as learner evaluation, the development of



textbooks and additional materials, the development of instructors, the production of materials, monitoring, and on-site support for other resource groups and teachers. District Resource Groups have been established in each and every one of the DPEP and SSA districts as a result of a series of visioning workshops that lasted for two days. A total of 312 individuals who have expertise in a variety of educational fields were selected to serve as members of the DRG. These individuals were selected from twenty-two SSA districts and eight DPEP expansion districts. The participants were put through a rigorous training program that lasted for seven days. Following that, Block Resource Groups were established in each block of the DPEP expansion and SSA districts (Murphy, 2013). These groups consisted of ten to fifteen experienced teachers. Since the 31st of March in 2006, there are a total of 3961 BRG members in the state.

Techniques that are traded for mutual benefit: On a regular basis, teleconference programs are held in order to provide faculty members of DIET, BRCCs, CRCCs, SIs, and DRGs located throughout the state with the opportunity to acquire knowledge regarding the most effective techniques. The evaluation component for the learners was made more straightforward. As of the year 2002, the Common Annual Primary School Examination was put into effect, and it was funded by the Social Security Administration. The authority to conduct the test using their own sets of questions was delegated to the districts through a series of directives. A new evaluation pattern was the primary emphasis of the question setters in order to ensure that the review was comprehensive and ongoing. Plotting and recording the academic progress of pupils in each and every class across all subjects is done, and this is done both by class and by subject, for each and every gender. When the Parent Teacher Association (PTA) meets, parents are notified of the results of the Common Annual Examination (CAE). By conducting a critical analysis of the results of the unit tests, the half-yearly examination, and the annual examination on a quarterly basis from 2006 to 2007, the National Council of Educational Research and Training (NCERT) tool will be used to ensure that the quality of learning is maintained. When doing this analysis, other factors, such as social category and Children with Special Needs (CWSN), will be taken into consideration.

The Gender as a Dimension The turn of the millennium has brought with it new perspectives and challenges to several aspects of development. One of the most important indicators of progress is educational attainment. The education of young women has emerged as a prominent focus area for educational programs. Because of their lack of advancement in schooling Innovation systems and the effects of information technology under globalization 427 have slowed down the speed of national growth in terms of education and other developmental programs. This is in addition to the fact that they have prevented them from attaining their full potential. Fundamental concerns about females' education in Orissa, and throughout the nation, have been Girls' low participation in school, their unsuitable schedules, the lack of girl-child-friendly curriculum, the lack of female teachers or the lack of gender-sensitive teachers, their low performance and competency levels, the lack of awareness in communities about the value of girls' education, and the fact that girls are involved in household chores and taking care of their siblings are all contributing factors. Despite this, the percentage of rural women in Orissa who are literate is lower than the average for the entire country, as indicated by the Population Census conducted in 2001. As shown in the accompanying figure, the discrepancies in literacy rates that exist between rural and urban areas of the state are also visible. The gap between males and females is appallingly large, and the difference between rural and urban areas is not merely big. Both of these disparities are appallingly large (Sahlberg, 2006).



## 2.4. Adaptability And Scalability

The public can view and evaluate the transparency of the full database because it is accessible to all citizens via a website. Second, the database has features that allow users to communicate and email the administrator to update or rectify any information. After receiving such emails, a field inquiry will be conducted before any real updating occurs at a suitable level. The modifications that will be made to the original database were considered during the project's planning phase. Therefore, the majority of business logics and codification standards were created to be flexible enough to allow for revisions without compromising the original idea. In order to allow the database to be used by other applications, it was made generic. The database is designed to be flexible enough to grow to any size and adapt to modifications (Aypay & Sezer Kalayci, 2008) (Pyhältö et al., 2011).

To allow for future updates, the demographic data has been codified in a general manner that is also usable by other programs. Projects in other departments can also make use of the Schools, Children database. A couple of instances where the project has been expanded to handle adjustments with regard to other requirements are the School Information System and the Education Personnel Information System.

## 3. Conclusion

NGOs are essential to developing a knowledge-based Society and advancing education. The state of Orissa wants to raise the literacy rate, especially among the less fortunate in Society and in Rural areas. As part of the implementation of the Second Millennium Development Goal, plans are in place to enhance enrollment, retain enrolled children, and offer high-quality education. The goal of the state's e-Government Strategy is to support effective governance and help achieve goals for human and economic development. The American India Foundation Trust, UNICEF, DFID, and the World Bank provide funding for schooling and mass education in Orissa. Orissa, one of India's largest states, has the lowest rate of literacy among the major states. In an effort to lower dropout rates and achieve universal basic education, the State has started the District Primary Education Programme (DPEP). Still, the dropout rate is concerning, especially for students from Scheduled Tribes and Scheduled Castes.

Primary education dropout rates are a problem for developing nations because of things like low interest, poor living conditions, far from schools, and a teacher shortage. In an initiative known as "e-shishu," the government of Odisha, India, incorporated technology into the academic program. The project collected data through door-to-door household surveys with the goal of building a database to follow every child in Orissa. The Indian government's main initiative, Sarva Shiksha Abhiyan (SSA), seeks to make elementary education universal by 2010. The project's objectives were to keep track of children who are not in school, keep those who are in school, and raise educational standards. Using Intelligent Character Recognition (ICR) technology, the Child Tracking System (CTS) was developed to handle and analyze the data. It has a database containing 10.5 million children aged 0-14 years. Every year, the CTS data is updated, and the required innovations are implemented to gauge teacher accountability and raise children's educational standing.

In all 30 districts of Orissa, the State of Orissa (SSA/DPEP) has developed plans to strengthen grassroots community groups including VEC, PTA, and MTA. Under SSA, these entities have been given some authority, responsibilities, and resources. The goal of pedagogical activities is to increase instructors' capacity to support all students in active learning, irrespective of their gender or social class. To assist with these efforts, the state resource group, district resource group, and block resource



group were established. Programs for teleconferences have been used to exchange best practices and raise the standard of instruction. With the turn of the millennium, education has faced new viewpoints and difficulties, and females have become a crucial focus area. The public can access the database, facilitating communication and openness. In order to handle changes in demographic data and other applications, such the School Information System and the Education Personnel Information System, the project has been expanded.

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