

**Teacher perspectives on pedagogical changes: An ethnographic study in the rural primary schools of Tamil Nadu, India.**

Gomathy Soundararaj

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Department of Education

University of Jyväskylä

## ABSTRACT

**Soundararaj, Gomathy. (2019). Teacher perspectives on pedagogical changes: An ethnographic study in the rural primary schools of Tamil Nadu, India.**

The study seeks to understand and analyse the pedagogical changes and its implementation process in Tamil Nadu, India. It aims to understand the perspectives of the rural government teachers when the state introduces pedagogical changes based on constructivism such as the Simplified Activity Based Learning (SABL) in the schools. The study captures the transition process, focusing on aspects of the pedagogical change such as the role of a teacher, use of digital technology and the teacher professional development program from the standpoint of the teachers.

The findings of the study reveal that the teachers struggle to define their role in a child centered pedagogy classroom with obstacles in terms of their ideologies, society and support in implementation. With digital technology based instruction, teachers faced major hindrances in the form of their beliefs, lack of resources and problems with the in-service teacher training program. While the in-service teacher training conveys content and information it fails to address the needs of the teachers and enhance teacher agency. The teachers expressed a disconnect with their facilitators and pointed out the absence of demonstration classes, discussion and collaboration along with the issues in time allocation and consistency.

With such findings, the study proposes recommendations to address and integrate teacher agency, teacher interaction and collaboration to make it more impactful. It includes creating an egalitarian space with changing lecture-based sessions to design thinking and appreciative inquiry processes that connects the facilitators and teachers, enables a better understanding of the pedagogy and empowers teachers to be the agents of change.

Keywords: in-service teacher education; pedagogy; digital technology; Tamil Nadu.

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## LIST OF ABBREVIATIONS

ABL – Activity Based Learning

ASER – Annual Status Education Report

B.Ed – Bachelor of Education

BRC – Block Resource Centres

BRTE – Block Resource Teacher Educator

CBSE – Central Board of Secondary Examination

CCE – Continuous and Comprehensive Examination

DEO – District Education Officer

DIET – District Institutes of Education and Training

DIKSHA – Digital Infrastructure for Knowledge SHARING

FA – Formative Assessment

GER – Gross Enrolment Ratio

LEP – Learning Enhancement Programme

M.A – Master of Arts

M.Ed – Master of Education

NCERT – National Council of Education Research and Training

NEET – National Eligibility Entrance Exam

NITI – National Institute of Transforming India

NPE – National Policy on Education

NP-NSPE – National Programme of Nutritional Support to Primary  
Education

QR – Quick Response

RIVER – Rishi Valley Institute for Educational Resources

RTE – Right to Education

TLM – Teaching Learning Materials

SA – Summative Assessment

SABL – Simplified Activity Based Learning

SCERT– State Council of Education Research and Training

SDF – Sustainable Development Framework

SDG – Sustainable Development Goal

SMC – School Management Committee

SSA – Sarva Shiksha Abhiyan

UNESCO – United Nations Educational, Scientific and Cultural  
Organisation

UNICEF – United Nations International Children’s Emergency Fund

# 1 INTRODUCTION

India has more than 1.5 million schools and about 260 million students in 2015-2016 and it is the second largest school system in the world (Trines, 2018). In 2014-2015, the Gross Enrolment Ratio (GER) in the primary level stood at 100.1 percent (98.9 percent for boys and 101.4 percent for girls) and in Upper Primary level 91.2 percent (87.7 percent for boys and 95.3 percent for girls) (Government of India, 2016a). Since equity and access have been prioritised before, the issue of quality had always taken a back seat and now it has become an important factor to address without compromising on the former aspects (Government of India, 2016b).

The Sustainable Development Goal (SDG) 4 developed by the UN addresses the lack of quality in education across countries and encourages policy interventions and, other measurements to address the issue by 2030. To achieve the SDG goals and improve the educational quality, the Government of India, National Institute of Transforming India also called as NITI Aayog partnered with the United Nations in India to implement the Government of India - United Nations Sustainable Development Framework (SDF) for the period 2018-2022. The framework aims that by 2022, people belonging to the vulnerable group (children, youth and adults) will have access to good quality learning at each level of education (Government of India and United Nations, 2018). While frameworks and policies are designed to enhance the quality, there is a need to analyse the existing standards of the current education system.

The current education situation can be aptly defined by the term 'learning crisis' coined by UNESCO in its annual report in 2014. Learning crisis is when children have access to schooling but do not gain basic skills and knowledge which leads to poor quality in education. Among the factors causing such learning crisis, pedagogy and teacher training are very crucial. According to the National Policy on Education (NPE) (2016), the poor quality of pre service teacher education and in-service teacher training is the cause of poor quality of the

quality of school education. Alexander (2015, p. 251) emphasises saying, “pedagogy is at the very heart of education and without pedagogy discussion of educational quality makes little sense.” Both the thoughts resonate with the World Development Report which states that the lack of subject knowledge and pedagogical skills of teachers are the reasons for poor quality of education (World Bank, 2018).

The study seeks to understand and analyse the pedagogical changes at a primary level and its implementation process in Tamil Nadu, India. It aims to understand the perspectives of the rural government teachers when the state introduces pedagogical changes based on constructivism such as the Simplified Activity Based Learning (SABL) in the schools. The study captures the transition process, focusing on aspects of the pedagogical change such as the role of a teacher, use of digital technology and the teacher professional development program from the standpoint of the teachers.

## **2 PRIMARY EDUCATION IN INDIA**

Realising the significance of primary education on an individual’s life, the Indian government has always prioritised and continuously improved primary education both at the national and state level through a variety of schemes and programs. The National Policy on Education (NPE) states that the poor quality of learning in primary school negatively impacts the secondary stage and this continues till the college years and leads to poor learning outcomes in the higher education (Government of India, 2016b). This results in students being handicapped to make use of the complete educational opportunities provided by the state (Government of India, 2016b). To address this issue, a major breakthrough program named Sarva Shiksha Abhiyan (SSA) was launched in 2001, with the principal objective of universal access to primary education for all children.

The goals of SSA consists of universal access and retention, bridging gaps of gender and social category in education and children’s learning level en-



hancement (Ministry of Human Resource Development, 2011). SSA built a primary school in every village in the distance of one kilometre and provide trained teachers, learning materials, and other amenities. It also offered certain amenities like free textbooks, uniforms, school bags, and scholarships which is conditional on enrolment (Mangla, 2018).

Following SSA, the Right of Children to Free and Compulsory Education Act 2009 or the Right to Education (RTE) act was enacted in each state to provide free and compulsory education for children of 6 to 14 years of age. Under the RTE Act, since 2010, there has been an optional “no-detention” policy according to which no student can be retained or expelled until Class 8 under state’s decision. The bigger motive behind this rule is to provide education to children till 14 years of age, reduce the number of drop outs especially in the rural areas (Government of India, 2016b).

In 1995, the centrally sponsored program named National Programme of Nutritional Support to Primary Education (NP-NSPE) was initiated in 2408 blocks (administrative division) in the country. After which, in the year 1997-98 the NP-NSPE spread across all the blocks of the country (Ministry of Human Resource Development, n.d.). Under this program which is also known as the mid-day meal scheme, free lunch was provided to children attending primary schools across the nation. The main motive is to enhance enrolment, retention and attendance and also improving nutrition intake among children (Ministry of Human Resource Development. n.d.).

With SSA, Right to Education (RTE) Act combined with the mid-day meal scheme, the primary schools at the state and national level succeeded in increasing the enrolment numbers and improving infrastructure facilities. The GER increased from 82.4 percent in 2001 to 95 percent in 2014 (Ministry of Human Resource Development, 2014). The decentralised implementation of the programs under SSA in each state of India led the country towards universalisation of primary education.

While the SSA addressed the enrolment and infrastructure necessities, the District Institutes of Education and Training (DIETs) established in the states were responsible for conducting district level comprehensive programs for pre

and in-service teachers and provide ongoing academic support according to the context (Mangla, 2018). With the numbers moving towards the target, the attention shifted towards the quality of the primary education at each state level. The NPE formulated by the Ministry of human resource and development of India in 2016 that focuses on improving the quality and restoring the credibility of the Indian education system states by the factors affecting the current system of education. It includes the lack of competent and committed teachers, poor quality of teacher education and training, rote-based learning curriculum, corruption and politics in all levels of education management (Government of India, 2016b).

Most states under the SSA have included interventions for quality improvement which include pilot programs such as teacher training, material development, Learning Enhancement Programme (LEP), and specific subject-oriented programmes (Ministry of Human Resource Development, 2011). Tamil Nadu is one of those states that has consistently experimented on initiatives in teacher training, curriculum, pedagogy, ICT to enhance the quality of primary education.

### **3 PEDAGOGICAL REFORM IN PRIMARY EDUCATION OF TAMIL NADU**

#### **3.1 Pedagogical Changes from 2002 to present**

“...the instructional activities that we did witness were largely drill-based procedures, where the teacher either taught the children a song or ordered the children to repeat an oral dictation/spelling after her. When student participation was solicited, it was largely to give a rote answer to a question or to read out the text from the textbook. In essence, the pedagogy did not require students to actively engage in the learning process.” (Grover & Singh, 2002, p. 23).

Breaking the pattern of such old school pedagogy methods, which encouraged lectures, rote learning and copying from textbooks, the Government of Tamil Nadu implemented Activity Based Learning (ABL) in 2003 that captured the national and global attention towards its primary education system. ABL was developed by Rishi Valley Institute for Educational Resources (RIVER), an NGO in Andhra Pradesh. It was piloted in 2003 across 13 schools in Chennai, Tamil Nadu under SSA and then implemented in all the government schools during 2007-2008 (Singal et al., n.d.) with the motive to develop the quality of primary education.

ABL is a child centric and activity-based pedagogy that supports independent and self-initiated learning at an individual pace. Students work independently in small groups in multi age or multi grade classrooms, through activities under each ladder – a group of units for each level (SSA, n.d.) Children go to a specific ladder and choose materials, usually activity cards and three dimensional math models which are attractive and child friendly (Niesz, Krishnamurthy & Mahalingam, 2011).

In a country with a strong “textbook culture” (Gupta 2006 cited in Niesz, Krishnamurthy & Mahalingam, 2011, p. 2), ABL doesn’t give importance to textbooks and uses them only as reference texts (Niesz, Krishnamurthy & Mahalingam, 2011). A chalkboard is placed at the level of the children around the classroom that gives a working space for every child. Teachers are supposed to work with the children individually addressing to their need in the learning ladder. The children also worked in pairs and groups during activities. Independent learning, free movement in the classroom was encouraged to create a self-initiated and engaged learner. The teachers assessed each child according to their own level and promoted them to the next level (Anandalakshmy, 2007).

Even though ABL created a huge change in the pedagogy of primary education, there were some practical drawbacks that led to the questioning of the sustainability of the model. According to the UNICEF (2015) report, the ladder, and use of cards and materials led to better learning outcomes but ABL specifically did not impact student’s higher order thinking skills and conceptual un-

derstanding. On the other hand, the classrooms showed increased child engagement levels and autonomy. As the UNICEF (2015, p. 68) report notes, “despite having a 10-year history of ABL implementation, barely 6% of sample of teachers in Tamil Nadu had a high buy-in.” The reasons include insufficient teacher involvement after the first few years, continuous and confusing changes to the model from 2010, and reintroducing textbooks along with the learning ladder (UNICEF, 2015). The reasons stated for the textbook inclusion created confusion among the teachers in the structure of the model and each stakeholder had a different perspective towards the implementation procedure. For example, Block Resource Teacher Educators (BRTes) in Tamil Nadu have expressed, “We should be answerable to one – right now we have SSA telling card ladder and Elementary Education Director saying textbook” (UNICEF, 2015, p.68).

However, during the course of years, especially at the rural level there were insufficient materials and cards for usage at each level and the training observations revealed “inadequate percolation of trainings to the district and block level” (UNICEF, 2015, p. 59). The trainings failed to completely change the teacher’s belief and hindered a complete transition to child centered pedagogy. Along with the regular alterations to ABL, the Tamil Nadu government also transformed evaluation pattern into a Continuous and Comprehensive Examination (CCE) which according to a senior official diluted ABL as teachers started focusing on “documentation” rather than actual teaching (Srividya, 2016).

With criticisms and confusion building up against the ABL model, the Government of Tamil Nadu decided to rewrite the existing model with major changes and implemented a new Simplified Activity Based Learning (SABL) in 2018 from Grades 1 to 3 (Tamil Nadu School Education Department, 2018a). The SABL is also commonly referred to as new pedagogy by the teachers and teacher educators. In tandem with the change in the model, the Tamil Nadu government also revamped the syllabus of primary education after a period of seven years (TNN, 2016). The primary reason for the change is attributed to the 10 yearlong period since the last syllabus revision and introduction of competitive exams like National Eligibility Entrance Exam (NEET) for admissions into

medical colleges by the central government. The poor performance of the government school students in such exams is blamed on the quality of the state board syllabus (Thirumurthy, 2017). In a step to equip the students at government schools equal to the students in private and international schools from the early stages, the current syllabus and pedagogical method is designed at par with the central board syllabus with the aim to bring access and opportunities to all the students irrespective of their economic and social status.

SABL is formulated with the same child centered ideology as ABL with some improvements in the teaching learning process to fulfil the shortcomings of ABL. The main features of SABL include textbooks and workbooks for students, and teacher manuals for respective grades, integration of ICT in the textbooks with interactive QR codes in each lesson and clear instructions on the teaching learning process with predefined timetables (Tamil Nadu School Education Department, 2018a). The central government has also launched a teacher learning application named Digital Infrastructure for Knowledge SHaring (DIKSHA) at the national level with all the contents of the book, videos and evaluation patterns of the states and Tamil Nadu has adopted the app as a means of on-going teacher education. Briefly, the cards have been replaced with textbooks and digital technology while the role of the teacher and classroom environment remains the same.

SABL is proposed to help multi grade teaching in primary schools where there are only two teachers for five grades. They are commonly called as two teacher schools. In Tamil Nadu, out of 24250 government managed primary schools, 17575 are two teacher schools and out of 5047 aided primary schools which are partially funded by the state, 2008 are two teacher schools (Tamil Nadu School Education Department, 2018b). The learning outcomes of the new pedagogy are defined in two ways: Content outcomes which the syllabus covers and the skill outcomes which are categorized class wise and subject wise (Tamil Nadu School Education Department, 2018b). They are improved through four strategies that address different categories such as teacher contact, peer group, individual and assessment (Tamil Nadu School Education Department, 2018b).

The teaching learning process has six steps for which the content and activities are designed for each step in the textbooks, workbooks and teacher manual. The six steps are introduction or motivation, pre-skills scaffolding and understanding new concept or skill, consolidation and practice, reinforcement-extension and enrichment, assessment and remedial. The time allocation is pre-defined by the designers, with three slots of 1.5 hours each and the last half an hour for group activities (Tamil Nadu School Education Department, 2018b).

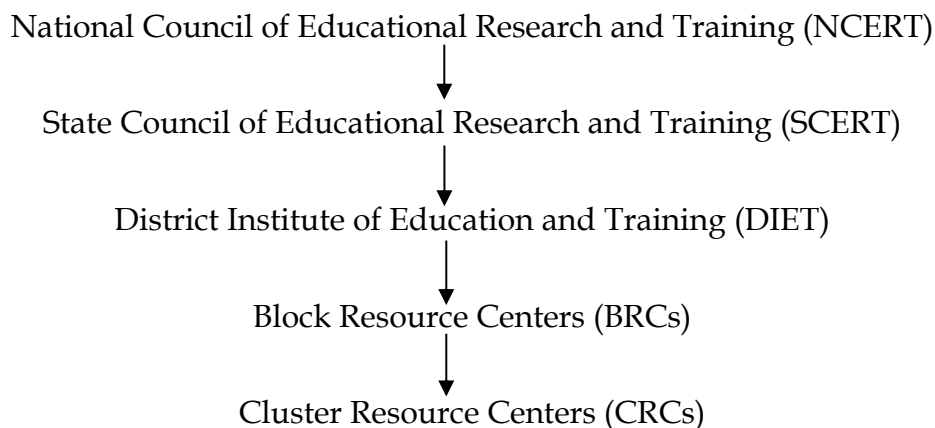
The assessment in the primary education has a trimester pattern with Continuous and Comprehensive Evaluation (CCE) consisting of Summative Assessment (SA) at the end of every chapter and Formative Assessment (FA) for each term. The learner is assessed not only for academics but holistically for values, behaviour and extracurricular activities. The textbook also includes a self-evaluation for the student at the end of each chapter. There is space and time for remedial teaching and learning (Tamil Nadu School Education Department, 2018b).

The path of the pedagogical reform in Tamil Nadu has experienced a total shift from lecture based to activity based with ABL. Through the years of ABL, the designers have realised both the advantages and disadvantages of the model and now with the new SABL, trying to find a balance in adhering to the ideology and experimenting on effective practices.

### **3.2 Implementation model and scaling up**

The pedagogical reform and dissemination model are directly proportional to one another. When there is a change in the pedagogy or curriculum, the outcomes are effective only if there is a proper dissemination structure. Teacher education in India has two divisions – pre-service teacher education that prepares students for the teaching profession and in-service teacher training designed and conducted by the government through SSA or NGOs and social enterprises (Samhita, 2016). This study focuses primarily on in-service teacher education to emphasise the issues faced by the teachers in their everyday teaching due to changes in pedagogy.

### 3.2.1 Structure of In-Service Teacher Training



*Figure 1: Structure of teacher training organisations in India*

At the national level, development, research, training, dissemination and publication of school education is conducted by the National Council of Educational Research and Training (NCERT). NCERT also collaborates with the state level organisations called State Council of Educational Research and Training (SCERT) present in each state in India. SCERT designs curriculum, training programs for development of teacher training and also conducts research in improving the quality of primary education (TNSCERT, n.d.). SCERT percolates its functions into each district in the state through District Institute of Education and Training (DIET). SCERTs and DIETs support the teachers academically through Block Resource Centres (BRCs) which branches out to Cluster Resource Centres (CRCs) (Research, Evaluation and Studies Unit Technical Support Group EdCIL (India) Limited, 2010).

The BRCs and CRCs consist of teacher educators who are responsible for the materials and amenities at the schools and function as a knowledge resource bank for teachers. They conduct regular school visits and inspections to assess the teaching process and learning outcomes. They evaluate the performance, address the pedagogic needs and provide training accordingly. They are responsible for conducting teacher training programs, monthly meetings, design quality improvement plan and consult with the community members and panchayat unions (village administration) for school improvement. They also serve

as a connection between the teachers and the policy makers in collecting feedback from teachers and conveying the perspectives of the policy makers and curriculum designers to the teachers. In Tamil Nadu, there are 401 BRCs and 4088 CRCs (Research, Evaluation and Studies Unit Technical Support Group EdCIL (India) Limited, 2010).

When there is a change in the curriculum or teaching methods, the teacher training usually follows a cascade model for dissemination of information and skills for the teachers in rural and urban schools as shown in Figure 2.

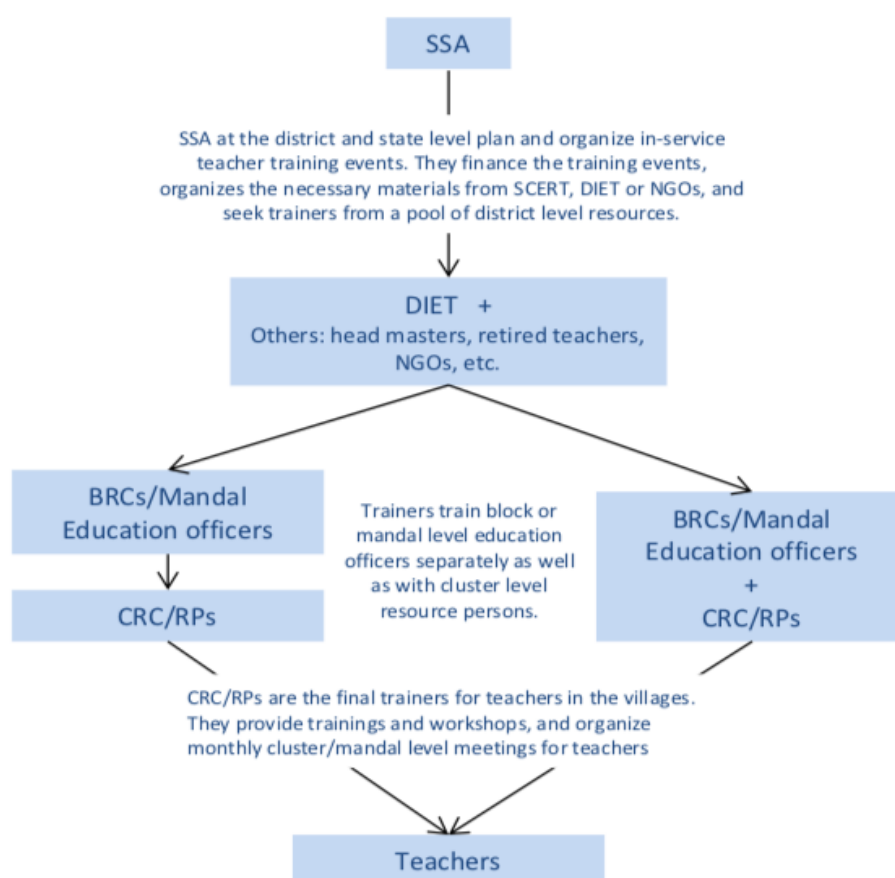


Figure 2: Structural flow of in-service teacher training for public primary teachers (Kidwai et al., 2013)

### 3.2.2 Implementation of ABL and SABL

The initial phase of ABL encouraged teachers in Chennai to visit the Rishi Valley School on a voluntary basis. During their visit, teachers experienced the methodology in person which enabled them to become active learners. When the ABL



method was scaled up to all the schools in Chennai, the core team included teachers from the schools that participated in the initial phase to create course materials and train other teachers (Bedi & Kingdon, n.d.).

It became a movement-like approach that encouraged classroom teachers to be a part of the material building and thinking process, initiating egalitarian relationships across all the stakeholders. The teacher trainers were practising teachers and the training avoided didactic teaching methods that concentrated more on passing on theoretical knowledge and focused on interaction, dialogue and discussion (Niesz & Ryan, 2018). With the designing and training in place, the sustainability of the ABL pedagogy for about 10 years is the stringent monitoring methodology by the SSA as the BRTEs conduct regular visits to the schools to assess the learning outcomes and report to the District Education Officers (DEO) (Bedi & Kingdon, n.d.).

SABL was introduced to the teachers through a two-day training program by the BRTEs in each district. The implementation followed a traditional cascade model of dissemination where the teacher educators were trained by the state team and then they train the teachers in each district. The feedback of the teachers from their practice of ABL was taken into consideration but teachers were not actively involved in the pedagogical reform process like in ABL. The training involved introduction of the changes with the pedagogy like using textbooks, QR code and digital platform DIKSHA. The second day of the training involved demo classes on specific subjects.

On the whole, the state of Tamil Nadu from 2002 has been experimenting, innovating and learning through the pedagogical reforms and implementation models in school education by breaking the conventional methods. This has brought in positive changes in the policy, pedagogy and training with some feedback and room for improvement. As the introduction provides a brief note on the reforms, it is essential to understand the underlying theories that caused such changes in the education system.

## 4 THEORETICAL UNDERPINNINGS

Learning is a complex process in which learners constantly change their understanding of world and continuously create and evolve newer schemes to adjust and adapt to ever changing world around them (Tandon, 2017). It is essential to base the teaching learning process on learning theories to design the curriculum, pedagogy, assessment and teacher training accordingly. The 21<sup>st</sup> century pedagogies globally and especially in developing countries has moved from a teacher centered approach to a learner centered approach. This is evident with the studies of Tan (2017), Song (2015) and Sriprakash (2011) which discusses the pedagogies in China, Cambodia and India respectively.

This chapter begins with the broader framework of theories, philosophies and ideologies of constructivism. Then, it unveils the details about the pedagogical practice formed based on the broader framework called child centered pedagogy. Finally, it narrows down to the important factors of the pedagogical reform which constitutes the core of this research – role of the teacher, the teaching process and teacher professional development. The conflict that arises in the theory and practice further leads to the importance of this study and the research questions.

### 4.1 Constructivism

Constructivism is a cognitive learning theory that propagates that, “learning takes place when new information is built into and added onto an individual’s current structure of knowledge, understanding and skills” (Pritchard, 2009, p. 17). The learner centered or child centered approach in pedagogy is based on the theory of constructivism. The focus is on cognitive development and deeper understanding with the belief that learning is a nonlinear process (Fosnot & Perry, 2013). It defies the behaviourist view that knowledge is acquired passively when the learner receives information from the outside world. (Lowenthal & Muth, 2008). It believes that learner gains knowledge through “knowledge-constructing activities” (Tan, 2017, p. 3). Constructivism has two

sub-groups, one which focuses on each learner's perceptions and the other focusing on the interaction among learners (Henson, 2003).

#### **4.1.1 Personal constructivism**

Personal constructivism is rooted in the socio cognitive learning theory of Piaget (Henson, 2003). He perceived the learner as an individual and believed that the construction of knowledge happens at a cognitive level inside one's mind when the learner had to solve problems. His model of schemes or schema played a major role in shaping the theory. The components of a person's general knowledge structure which relate to that person's worldly knowledge is called schema (Bodner, Klobuchar & David, 2001).

Connecting schema to the learning process, Piaget (Smock, 1981 cited in Bodner, 1986) introduces the concepts of assimilation and accommodation. Assimilation occurs when the activities faced by the learner activate the schema to interpret the tasks given by connecting it to the pre-existing schema. Accommodation is when the learner cannot find the connection because of the newness of the tasks and the pre-existing schemes are modified to cope with the current activity. Such process helps the learner to acquire knowledge (Bodner, Klobuchar & David, 2001).

This model has been widely used in the construction of pedagogy and development of the teaching and learning experiences (Bodner, Klobuchar & David, 2001). The personal constructivist approach focuses more on the learner's cognitive side and holds the learner accountable of his own learning. Learners are responsible to draw on meanings from the experiences around the world and connect them with new challenges to build an understanding.

#### **4.1.2 Social constructivism**

While Piaget concentrated on individual's mind, by representing a learner as a lone being making meaning of the situations faced, a social and cultural perspective of knowledge creation reality (Lowenthal & Muth, 2008) led to the branch of social constructivism. One of the pioneers in this branch of construc-

tivism is Vygotsky. He emphasises on social interaction and introduces the concepts of the zone of proximal development and scaffolding. The zone of proximal development is “a theoretical space of understanding which is just above the level of understanding of a given individual” (Pritchard, 2009, p. 25). It is the level of understanding that the learner will eventually move forward. The zone is different for each individual and the learner needs support to function effectively.

Scaffolding is giving materials and support to the learners according to their level of learning. The support can be given through materials, levelled tasks, reminders or writing frame and collaborative work or pair work. (Pritchard, 2009). Dialogue, discussion, collaboration becomes integral part of the learning process. Through these concepts, social constructivism focuses on learner and their construction of their reality through their interaction with world and discussion with others according to Bruner (Tandon, 2017).

The social constructivist approach holds a heavy responsibility on the teacher in creating an environment for the learner to interact and give support when needed. The teacher has the role of “stimulating dialogue and maintaining its momentum and support the development of understanding” (Pritchard, 2009, p. 25). When planning lessons, the teacher has to consider the learner’s current understanding level and plan according to the level (Pritchard, 2009). While this model signifies how learning occurs for a learner it also mentions the role of a teacher in aiding the process.

### **4.1.3 Constructivism and Indian Pedagogues**

As the study focuses on an Indian context, it is crucial to expand more on the Indian philosophers who shared their views on the construct of education and teaching learning process. In the colonial India, education was meant to retain social order through pedagogy that was strictly restrictive and lacked space for the learner to explore, question and connect the reality with the school (Sriprakash, 2012). After Independence, the philosophers of education had visions on the structure and principals of education in post-colonial India.

The philosophy of Indian education emphasises on the “essence of creating a sense of universal human hood and spirituality” (Srivastava, 2017, p. 12) which is now called as global citizenship. Education has always been looked in connection with nature, spirituality, religion and society. The current constructivist approach has been explored in depth in the Indian education philosophies since Independence. The main thinkers of the educational philosophy are Rabindranath Tagore, Mahatma Gandhi, Sir Aurobindo and Swami Vivekananda.

The education philosophies of Swami Vivekananda and Sri Aurobindo Ghose gave equal importance to children’s personality development and country’s spiritual identity, providing a mix of “pedagogic modernism and revivalist nationalism” (Sriprakash, 2012, p. 30). Vivekananda’s theories of education were intertwined with his spiritual philosophies as he states the essence of education should be “the concentration of the mind, not the collecting of facts” (Vivekananda, 2018). Aurobindo’s principles of education focus on “the awakening of man (sic) as a spiritual being” (Cenkner 1994 in Sriprakash, 2012, p. 30).

In analysing the role of the learner and process of learning, Vivekananda notes that “A child has many potentials of variable worth”, and “he has to learn to choose which he should try to develop, and which he should minimize, counter or ignore” (Prabhananda, 2003, p. 236). Expanding on that, Aurobindo stressed that children should contain the freedom to learn through self-reflection and self-evaluation (Joshi, 2011). Both of them concentrated on the learner’s autonomy and freedom in a learning space.

The pedagogic visions of Rabindranath Tagore and Mohandas Gandhi were aspirational and set in post-colonial industrialised India (Sriprakash, 2012). According to Tagore, “a teacher was a leader and a pioneer whose chief duty was in the art of drawing forth the individual’s initiative and creativity” (Samuel, 2010, p. 350). He stressed on the innate creative nature of children and the role of education in harnessing it.

Tagore's philosophy aims to develop the spiritual as well as the physical growth of the learner as he believed that the manifestation of personality depends on the self-realisation, spiritual knowledge and health of an individual (Srivastava, 2017). He considered cooperation, selfless activities, love towards fellows and responsibility towards nurturing social relationships to be the main purpose of one's informed mind and it enabled the individual to live as a worthy being (Bhattacharjee, 2014).

Gandhi put forth Wardha Scheme in 1937 comprising a national program of Nai Talim or Basic Education which aimed to develop the productive skills of rural children during industrialisation (Sriprakash, 2012). He encouraged education in one's own mother tongue and proposed free education till 14 years of age. He insisted that the children should be taught a local craft so that they can support themselves during higher education (Valmiki, 2018). The model and thoughts challenged one centralised power in dominating the education sector, gave localised autonomy and strength with a deep significance to skill development and children's freedom.

India, with its history and heritage, has a long line of powerful thinkers who encouraged learning through constructivism from an earlier time, however, the vision, pedagogy and agendas of Gandhi and Tagore prior to Independence did not have national reach and was not considered an approach to educate the masses (Sriprakash, 2012). The thoughts have only been put to reality recently with the push from the world organisations packaging the philosophies as child centered pedagogy in the name of improving the quality of education and development in the global south.

## **4.2 Child Centered Pedagogy**

With a strong base in the ideology of constructivism, international agencies have pushed child centered pedagogy or child centered approach as a panacea to the issue of quality education (UNICEF, 2009), with benefits such as holistic development of children, more child participation, motivation and positive social and economic outcomes. It is put forward as an innovative technical

method rather than “a set of pervasive social relationships between the teacher, the child, and school knowledge” (Sriprakash, 2012, p. 3). The child centered or learner centered pedagogy is designed in various forms in developed countries such as Montessori, Steiner, Pestalozzi in US and Europe, and in developing countries such as the ABL in Tamil Nadu, Bodh Shiksha Samiti schools in Rajasthan, India and pedagogical reforms in China and South Africa (Westbrook et al., 2013).

In the context of growing adaptations across the world, criticisms have arisen with the international development agencies widely sponsoring child centered pedagogies in developing countries. People look at it as “a process of Westernisation disguised as quality and effective teaching” (Tabulawa, 2003, p. 7). This leads to a failure in acknowledging the complexity of pedagogic practice in development contexts and leads to the “polarisation of teacher-centred or child-centred instruction” (Barrett, 2007, p. 274). It creates a mindset that the latter is better and more progressive than the former while there are pros and cons in both the pedagogies.

In implementing child centered pedagogies in an Indian context, Alexander (2008, p. 16) has cautioned: “to propose child-centred teaching methods as an indicator at national level is to smother with a blanket of unexamined ideology a vital professional debate about the conditions for learning and the complexities of teaching.” There are challenges in implementing competence based pedagogies in developing countries’ under resourced, less maintained, low income, performance oriented systems (Sriprakash, 2011). Bernstein (2000, cited in Sriprakash 2011) argued that the high transmission costs such as training teachers, resources for pedagogy and infrastructure, small class sizes, time for planning and evaluation, and community socialisation into the school are often hidden and thrust upon individual teachers who, in the Indian context are working in a heavily bureaucratised and low-status profession.

With its benefits and challenges, the child centered pedagogies is being hailed as a one stop solution for improving the quality of education especially in developing countries. It is essential to analyse in depth on the existing and emerging characteristics of the child centered pedagogy to evaluate the impact

and also formulate solutions to the problems that occur. In the process of analysis, the literature review delves deeper into three main factors of child centered pedagogy-role of a teacher, digital technology and teacher professional development.

#### 4.2.1 Role of a teacher

According to Tzuo (2007, p. 39),

“Child-centered teacher is like an impressionist’s way of painting, a teacher who is dedicated to put the ideas of child-centeredness into practice is like that of an impressionist who engages her mind to observe/ interpret/reflect the children’s behaviours and learning in her classroom, and who knows how to include and reconceptualise multiple theories into practice as she constructs her classroom without losing the foundation of child-centeredness, which is the valuing of children’s needs and interests.”

With child centered pedagogy, the concentration leans more towards the needs of the learners. However, the teacher still plays a crucial role in “observing, interpreting, responding to, and reflecting on children’s learning in the classroom in order to scaffold” (Wen et al., 2011, p. 954) and present the content in an understandable manner.

The role of the teacher is varied in the eyes of each theorist and philosophers in education. According to Piaget’s (Wadsworth, 1995 cited in Tzuo, 2007) theory, the teachers are observers who create a resourceful environment for children to learn and experiment by themselves with the greatest degree of freedom. Contrarily, Vygotsky’s learning theory aims to find a balance between activities which are teacher led and child-initiated. Teachers are supporters who provide challenges for the children to achieve the top level within their zone of proximal development (Tzuo, 2007).

The western philosophers like Montessori and Dewey have a conflicting opinion on the role of a teacher. Montessori drew the analogy of teachers as servants and children to be their masters. In such case, teachers take upon the role of servants who wait upon their masters and therefore can only help children in the classroom (Montessori, 1984). In addition, “the teacher’s happy task



is to show children the path to perfection, furnishing the means and removing the obstacles" (Montessori, 1984).

Dewey (1988, p. 46) believed that, "Guidance given by the teacher to the exercise of the pupils' intelligence is an aid to freedom, not a restriction upon it." Therefore, teachers should act as the representative and agent of the interests of the group as a whole and should be responsible for each child's on-going growth with the community (Dewey, 1988). While Montessori perceived teachers to serve, Dewey wanted them to guide the learning of children. The process or the action remains the same in both, but when Montessori mentions serving a hierarchical relationship is introduced and when Dewey says guiding it creates an egalitarian environment.

The Indian philosophers believed in the instrumental role of the teacher in education. Mahatma Gandhi encouraged ridding children from textbooks as pivotal to achieve teacher autonomy and freedom since it restricted the teacher to "impart originality to his pupils" (Kumar, 1993, p. 3). As Aurobindo states, the teacher must not act as a "task-master and instructor ... he does not impart knowledge to [the child]; he shows him how to acquire knowledge for himself. ... He only shows him where it lies and how it can be habituated to rise to the surface" (Smail, 2014, p. 616). This reveals the trust that a system should have on teachers which translates to power and impact.

These perspectives on the role of a teacher in a child centered classroom reveals the varied degrees of teacher control and student freedom. In the study by Song (2015) among the primary teachers in Cambodia, it is revealed that teachers expressed a strong support for child centered pedagogy but still stuck to the conventional teaching principles. Few teachers still value the control over children's learning that is allowed in the traditional curriculum which is teacher centered (Myagmar, 2010). This breaks the thin line between scaffolding and teacher control, where in the former there is a balance in control and autonomy while in the latter, there is more control and less autonomy. This leads to the tension between the autonomy of the children and teachers' control in the classroom interaction (Tzuo, 2007). Research shows that autonomy of children in

learning and teachers' active but not controlling role can lead to impactful learning experiences (Fung, 2015).

In the study by Fung (2015) that analysed the role of teachers in the kindergarten classes in Hong Kong during the implementation of a child centered curriculum, the teachers expressed that they were secure when they controlled the direction of the curriculum and moulded children's learning but they were also well aware that they need to take on the role of a facilitator to implement child centered pedagogy. In Wang's (2006) study in rural China, while the teachers receive the reform positively, they continue to exercise tight control of the classroom, and lecturing takes up most of the class time (Wang, 2011). This questions the principles, ideologies of child centered pedagogy as the teachers are expected to implement it rather than experiment with an understanding.

The role of the teachers' in making pedagogical decisions are hindered by both the schedule and centralized curriculum (Wang, 2011). In Smail's study (2014, p. 622), one of the teachers calls the schooling system as "prescribed" and says, "we are bound by text books and examinations and deadlines and to an extent the school system." In the rural classrooms of China, the curriculum and schedule restrict the teachers from experimenting with student-centered methods (Wang, 2011). Sriprakash (2012, p. 54) notes that a conflict exists between "the nature of the activities proposed, and their terminal objectives" formed by the state, leaving teachers to work within a restrictive framework. Kumar (2005, p. 94), notes that the state assumes to have credible knowledge and, therefore,

"there is no room in this [pedagogic] process for genuine inquiry, for it is assumed that all necessary inquiry has already been made; and the results of the inquiry have been packaged in the syllabus and the textbook."

Vavrus calls policy-makers attention to "recognize that the examination system, the material infrastructure of schools, and the length and the quality of teacher education programs limit the likelihood of a fundamental shift from formalism to constructivism" (Vavrus, 2009, p. 309).

The philosophies and ideologies of child centered pedagogy dictate how the role of a teacher should be structured in a classroom. In contrary to the expectations, each teacher designs one's own role with respect to the resources and facilities available in implementing the pedagogy. For a more impactful implementation, there needs to be concrete expectations set by the policy framework and a teacher's personal connection and belief to the ideology combined with autonomy to experiment in the classroom.

#### **4.2.2 The teaching process**

Teaching in a child centered classroom based on the constructivist learning theory defies the traditional approach of transmission model (Richardson, 1997) that includes lectures and promotes knowledge building activities that enables the learners to construct their knowledge by connecting it to their prior knowledge.

Constructivist teaching should encourage the children higher order thinking and analytic capabilities. The teacher pursues it in two ways: creating and facilitating an active environment "where students undergo certain amount of cognitive dissonance" and designing tasks which leads to "reorganization of existing cognitive maps" (Richardson, 1997, p. 5). Such teaching practice involves challenging tasks for students to kindle their thinking, hands on activities, creating a safe space and encouraging a culture of active questioning to dive deeper into student' thinking process (Richardson, 1997). It is evident that the activities, tools and learnings as a result of constructivist teaching enhances the child's cognitive development.

According to Richardson (2003), in a child centered classroom, a teacher has to give individual attention to each student and be aware and respect their background. It also requires facilitation of group dialogue that results in the process of developing shared understanding of an interest area. Teaching involves provision of opportunities to challenge and a space to question the existing beliefs through tasks that are "specifically structured for development of students' meta awareness of their own learning processes" (Richardson, 2003, p. 1626).

In exploring effective teaching process, various methods, tools, strategies and techniques have been formulated to make the classroom child centered. One of such tools that is gaining popularity in teaching process is the integration of digital technology. With increasing issues arising about the regular distribution of resources and materials to all the schools across the country, digital technology is looked upon as an effective and scalable resource in pedagogy (Muralidharan, 2013). In a child centered pedagogy, in addition to other resources digital technology provides a platform for exploration and discovery. There has been huge investment from the governments to integrate digital technology via computers, tablets and smartphones in schools.

According to Muralidharan (2013), digital technology benefits the child centered pedagogical practices in three ways – to help the teachers in increasing their knowledge and teacher training, children engagement and in teaching more advanced concepts or new language skills like English which lacks competent teachers. It also aids in better involvement of children in the learning process by using interactive modules such as educational video games. Finally, it helps to customise student learning plans at the individual level (Muralidharan, 2013).

Tondeur et al.'s (2017, p. 561) meta-analysis concludes that “the relationship between teachers’ pedagogical beliefs and digital technology integration is bi directional.” The role digital technology plays in classrooms relates to teachers’ ideology towards the learning and teaching process (Tondeur et al., 2017). If the experiences are integrated with digital technology-rich it has the potential to change the beliefs of the teacher into more constructivism and child centered, and teachers with constructivist beliefs adapt and integrate digital technology in their classroom (Tondeur et al., 2017). Through this study it is evident that the pedagogical beliefs might also act as a barrier for digital technology integration.

While the usage of digital technology in instruction is likely to be promoted and increased, the benefits of such interventions is still unclear. Sceptical scholars have even argued that promoting digital technology is looked upon as a pride, development and modernity rather than having any proven evidence

on the benefits of such interventions (Shields, 2011). In some cases, replacing traditional instructive practices with digital technology might also lead to negative impact. In the study by Linden (2008), an NGO in Gujarat implemented a program that replaced regular instruction with computer-aided instruction and an after school supplementary instruction with computers. The former led to lower test scores while the latter showed significant increase. This proves that the type of intervention and level of inclusion of digital technology in the regular practices directly affects the learning outcomes.

The consequences of the usage might be effective, but it leads to a risk of time consumption and replacement of the actual instruction that provides learning outcomes. Such results are specifically relevant in Indian context where interventions like “tablet computers for all” are scaled up as a potential short-cut to address the issues of the quality of education (Muralidharan, 2013). However, the evidence available in measuring the impact of digital technology use in the classroom is mixed and depends mainly on the implementation model (Muralidharan, 2013).

#### **4.2.3 Teacher professional development program**

For the teacher to build a constructivist classroom, he or she has to be trained through a constructivist teacher professional development program. Among the factors that constitute a constructivist program, teacher agency is identified as the most crucial as it has a great impact on the teachers’ learning outcomes (Biesta and Tedder 2007).

Agency is considered as a “socio-culturally mediated capacity to act” (Ahearn, 2001, p. 112) and it plays a central role in education especially with adult education and lifelong learning (Biesta and Tedder 2007). In the context of professional learning, teacher agency is defined as “the capacity of teachers to act purposefully and constructively to direct their professional growth and contribute to the growth of their colleagues” (Calvert, 2016). Agency is also a crucial factor in Vygotsky’s theory of “the developmental trajectory of human activity” (Vygotsky, 1987 cited in Voogt.et.al., 2015, p. 262).

Teacher professional agency is required to build creative, curious and participative learning environment that helps to design and practice innovative teaching methods, and to implement theoretical knowledge into practice through classroom teaching practices, school enhancement and self-development (Lipponen and Kumpulainen 2011). Such agency aids in improvement of self and also impacts the children.

An efficient professional development program should aid teachers in implementing their learnings directly in the classrooms (Zakaria and Daud, 2009). Holland's (2005) study shows that teachers were positive to transform their instructional practices, acquire subject expertise and improve teaching skills when teacher training is in relation to their daily experiences and in alignment with standards and assessments.

On the contrary, the in-service training program in most of the developing countries follow a cascade model of dissemination based on the behaviourist learning theory. The trainer who are experts are trained first and then the knowledge is transferred from them to the teachers (Dichaba & Mokhele, 2012). The countries adhere to this model of training especially in teacher professional development because it is capable to reach a large number of teachers in a short period of time (Bett, 2016). It also reduces the costs as the small number of trainers who have been trained can spread across the state or country and train others (Ono and Ferreira 2010).

The nature of the training model affects the crucial factor in pedagogical implementation which is teacher agency. Dadds (2014) criticizes the model as it views teachers as "empty vessels" who need external expertise. When the information is passed on from one entity to another, it has a "trickle-down effect - watering down of content as it is passed on to trainees" (Bett, 2016, p. 4). Ono and Ferreira (2010) observed that the teachers complained that even their trainers did not understand the curriculum properly. Gathumbi et al. (2013, p. 8) noticed that teachers are "removed from the reality awaiting them on the ground." They are de-contextualised and trained far from their classrooms which leads to problems when they try to apply their learning in reality.

The study conducted by Ayvaz-Tuncel & Çobanoğlu (2018) among Turkish teachers assessing the quality of in-service teacher training and its connection to the teaching process reveals that most of the novice teachers did not gain anything connected to their teaching or personal development from these trainings. In the study report released by Bill and Melinda Gates Foundation in 2014, that surveyed more than 1,300 teachers notes that the teachers described their professional development as irrelevant, not effective, and “not connected to their core work of helping students learn (p. 3).”

Even though there is sufficient amount of time and funds allocated for in-service teacher trainings, there is no standardisation on the outcomes of these trainings (Samhita, 2016). The World Bank Report (2018), notes that two thirds of world bank projects on education included teacher professional development. The survey of 38 developed and developing countries found that there was 91 percent teacher attendance in the professional development program last year (World bank, 2018).

In India, SSA allocated 20 days per year for in-service teacher training (Samhita, 2016). Even though 64 percent of funds were assigned for teachers in the year 2013-2014, there is no significant improvement that stresses the need for redesigning the teacher professional development programs (Samhita, 2016). The TNTP (2015, p. 2) study results note that even though there is enough time and financial investment, “most teachers do not appear to improve substantially from year to year – even though many have not yet mastered critical skills.” The “chalk and talk” method is still followed in the classrooms and the impact of training programs on classroom improvements is unclear (Government of India, 2010).

Teachers are pivotal in the consistency and operation of education reforms, yet they don't play a role in policy making and curriculum or pedagogical reform process. The agency and voice of the teachers is valuable but often neglected in their own professional development programs which leads to disconnect between the system and the teacher (Calvert, 2016).

## 5 IMPORTANCE OF THE STUDY AND RESEARCH QUESTIONS

The 2011 census reveals that 72.2 percent of the Indian population lives in rural areas, about 638,000 villages (Roy, 2012) and about 51.1 percent of children from rural India study in a government primary school without any tuitions (ASER, 2016). This data asserts the significant role of government rural schools in shaping the future of education in India. Even though rural government schools hold a great importance, the ASER report (2016) conducted across 17, 473 villages revealed that about 52.5% of grade 5 students cannot read a grade 2 text and about 70% of grade 5 students cannot recognize numbers from 10-99. This data explicitly reveals the poor quality of teaching in the government schools especially in rural areas.

With Tamil Nadu, the place of concentration in the study, there are few non-governmental organisations such as Madhi Foundation, STIR education and Qrius learning initiatives that work with the government and private schools in enhancing the quality of implementation of teacher training programs and the designing the pedagogy. However, the impact of such organisations and even the percolation of training programs is restricted to the city and fails to trickle down with the same essence till the rural level. This study aims to expose the perspectives of the rural teachers and teacher educators on the SABL pedagogy, digital technology and in-service teacher training program.

ABL method has been researched and analysed for the past 10 years since its implementation and the current SABL method was launched recently in the academic year 2018-2019. The current study captures the transition phase in the dissemination of the pedagogical changes which is latest and unique. This adds immense value to the relevance and novelty of the study. Each stakeholder (schools, teachers, administrators) re contextualise and interpret the policy with respect to resources and interests of the locality (Sriprakash, 2012). The broader education frameworks do not always fit in the local contexts. Hence, there is a



need to focus the attention to the local level conditions and possibilities articulated by people working in the field (Sriprakash, 2012). Thus, the goal of this study to turn the table around and inquire the educational programs from a local context.

In understanding the perspectives of the teachers on the pedagogical changes in the state on the basis of constructivism, three focus areas that involves teachers were chosen. They were role of the teacher, teaching process and teacher professional development. The following research questions are based on the focus areas and the observations, interviews and the questionnaires of this study were designed on the basis of the following questions which the study aims to answer.

1. How does the changes in SABL compared to ABL affect the role of teacher?
2. What are the teacher beliefs on digital technology based instruction?
3. What are the teacher views on the professional development program?

## **6 RESEARCH DESIGN**

The ordinariness of the government primary school invites the attitude that knowledge about the school is common, and we need not make any special effort to pause and gather an understanding about the school, especially in the case of government primary schools, there is so little happening and what we see is so familiar, dreary and monotonous, that even after a brief visit to such a school, we leave with the sense that we “know” all there to it (Sarangapani, 2003). In an attempt to break it and capture the true essence of education in villages, the study tries to explore the motivations and opinions of the people involved at the ground level through qualitative ethnographic research.

## 6.1 An ethnographic approach

Ethnography is a systematic approach to learn about the social and cultural life of settings such as communities, institutions and build on the perspectives of people (LeCompte & Schensul, 2010). Commonly used in anthropology and sociology research, ethnography has also been used in educational contexts. ethnography in education as “research on and in educational institutions based on participant observation and/or permanent recordings of everyday life in naturally occurring settings” (Delamont and Atkinson, 1995, p. 15).

Ethnography captures the field holistically as it is carried out in natural settings, consists of face to face interaction and presents a precise reflection of perspectives and behaviours of the participants (LeCompte & Schensul, 2010). Moreover, the primary tool of data collection in ethnography is the researcher (LeCompte & Schensul, 2010) and the field is decoded as the actions happen without any predefined structure.

The current study is specific to one region and rural setting and focuses on the beliefs, perspectives, thoughts of the teachers which is heavily influenced and dependent on the culture and society. Hence, ethnography was the best suitable approach to implement the study.

## 6.2 Data Generation

The data generation process started with the conversation about the objectives of my research with my aunt who is also a government primary school teacher. The conversation led to scheduling and arranging for school visits, and she introduced me to other teachers. The data was generated through observations, interviews and questionnaires which is typical in ethnographic research in schools and in-service teacher training program. I spent a period of two months in the field, with the first month mainly comprising observations in the schools and classrooms. The second month comprised of activities like attending in-service teacher training sessions, organising teacher and teacher educator interviews, designing and distributing questionnaires and observing classrooms after the training.

### 6.2.1 Observations

Observations provides an opportunity for the researcher “to gather live data from naturally occurring social situations” (Cohen, Manion & Morrison, 2013, p. 456). Observation was carried out in schools and in-service teacher training program. I started with the observations in two panchayat union primary schools in the Sattur block of Virudhunagar district of Tamil Nadu. I observed the classrooms for over a period of two months with a minimum of 4 days per week. My observations happened in the first half of the day from 9AM to 12.30 AM and then I spent the rest of the time till 3.30 PM processing the field notes and writing detailed reflection. In the initial days, I noted basic functioning of the schools such as schedule, children’s and teacher background, daily life of the participants, infrastructure facilities, village community which aided me to gain familiarity, connect and build a rapport with the teachers, children and village community.

After a period of 2 weeks, I started detailed observations on school structures, teacher practices, teacher attitudes, pedagogical knowledge, school management committees, power hierarchy, caste hierarchy and social issues related to education. The first month of school observations gave me a deeper understanding of the functioning of an education system in rural village schools from a ground level. The consistent interaction helped me to gain the trust of the teachers at the end of the month.

In the second month I attended and observed a two-day teacher training program conducted for the primary education teachers by the BRTes of the Sattur block as a new pedagogy or SABL was introduced for the academic year. The training sessions happens in three batches for 283 teachers. I attended the first batch of the training for 114 teachers by 9 teacher educators. The teachers in the schools I observed introduced me to the teacher educators. In the training sessions, I observed the model of teacher professional development, the importance given to the changes in the pedagogy and the practices followed by the teacher educators. After the training, I continued observing the classrooms focusing on the effects of the training and implementation of the changes in pedagogy according to the new pedagogy or SABL. Throughout the observations, I had a 72

sheet A5 size journal with me to take notes. At the end of the field work, I had 50 sheets of notes that includes observations from classrooms and trainings, reflections, thoughts and unrecorded interviews with the teachers.

### **6.2.2 Interviews**

Interviews enable both the researcher and the participants to discuss their view points towards the world and express their standpoint with certain situations (Cohen, Manion & Morrison, 2013). My interviews were informal and conversational with open ended questions. I interviewed the teachers after they attended the teacher training, during the second month of observations and the teacher educators during the in-service teacher training program. The social cultural aspect of hierarchy and protocols had to be kept in mind in both the contexts. When interviewing the teacher educators, I had to talk to supervisor first and then proceed to talk or interview with the other teacher educators. Among the teachers, I had to explain the purpose to the headmaster first and then talk with the other teachers.

The recorded audio interview of the teacher educators is for 51.55 minutes. The recorded video interview of the teachers is for 45 minutes. Even though I spent a huge amount of time in observations, I was able to record the interviews of only two teachers and two teacher educators. The reason behind the smaller number of recorded interviews is that the other teachers were not comfortable with their voice and information being recorded. The voice and video recorder were very intimidating for the participants. Hence, I had unrecorded interviews with other teachers during the school observations and teacher educators during teacher training sessions. I noted their responses for the questions along with my observation field notes.

### **6.2.1 Questionnaires**

Initially, I had planned only interviews and observations to collect more open data, but a teacher educator suggested to form a questionnaire to understand the view point of many teachers. I got a 30-minute time slot in between the teacher training sessions to give the questionnaires to a group of 25 teachers.

I designed a three-page questionnaire for teachers with open ended questions about their opinions on ABL, SABL, changes in the pedagogy, integration of digital technology, in-service teacher training and the status of government schools (See Appendix 2).

The teachers volunteered to answer the questionnaires and I managed to generate data from 18 teachers. With teacher educators, I had the task of personally asking each one if they would volunteer to complete the questionnaire. In the teacher educator questionnaire, the sections about ABL, SABL, changes in the pedagogy and the status of government schools remained and the questions on in-service teacher training changed focusing on their role and contribution (see Appendix 3). I managed to collect four responses from the teacher educators.

The extensive visit, observations and interviews in the schools over a period of two months provided me in depth details on the functioning of the schools and teachers' perspectives on the research areas. The first month of classroom observations helped me to establish a healthy bond with the teachers. This made them comfortable to discuss and share their thoughts with me. The teachers' positive opinion towards me as a researcher improved my ease to blend in the community and observe minute details of everyday interactions.

The trust of the teachers led me to the opportunity of attending in-service teacher training program. The teachers voluntarily introduced me to the supervisors and teacher educators which helped me to establish immediate relationship with the teacher educators and converse freely during the teacher training sessions. I believe that this kind of exhaustive data resulted from the combination of observations, interviews and questionnaires over the period of two months by establishing strong ties, adds more meaning to the research in comparison to the data from short visits to many schools.

### **6.3 Qualitative Content Analysis**

Qualitative content analysis is used as it is highly systematic, flexible, interpretive and helpful in analysing perceptions (Given, 2008; Schreier, 2014). It requires the

researcher to examine every single part of the data that is in any way relevant to the research question through an iterative process (Schreier, 2014). It is “an intellectual process of categorizing qualitative textual data into clusters of similar entities, or conceptual categories, to identify consistent patterns and relationships between variables or themes” (Given, 2008, p. 121). With different types of data – interviews, questionnaires, observation field notes, the analysis was efficient in collation and interpretation of the content.

### **6.3.1 Transcription and Translation**

As the first step of the content analysis, the observation notes from the journal were copied into a word document. The recorded interviews were transcribed and translated into textual data in an excel document. The data from the questionnaires was manually entered in an excel sheet. The observation notes and reflections had chunks of data and it was easier to compile it on a word document. On the other hand, with interviews and questionnaires the demarcation between questions and answers, and to compile answers of specific questions at one place, an excel sheet was more suitable.

Tamil was the major language used in the interactions, interviews and questionnaires since the teachers were more comfortable with it. The observation field notes were directly written in English in the journal. The questionnaires were formed in English first, and then after discussion with my supervisor, I translated them to Tamil and distributed it to the participants. The responses of the questionnaires and the interviews were directly transcribed to English. Since I have a native level proficiency in both languages, it was a time efficient process to translate directly and the participant answers also had technical terms in English. However, when there was a need for clarification, I always referred back to the raw data.

### **6.3.2 Coding and Analysis**

After transcribing the data sets, coding and analysis was done according to the qualitative content analysis guide by Erlingsson & Brysiewicz (2017). Initially since the questionnaires and interviews have clear demarcation (see appendix 2

and 3) of broader focus areas based on the research questions, the answers were grouped under ABL, SABL, digital technology and in-service teacher education. After which, relevant observation data was also noted under the focus areas. The grouping was carried out on an excel sheet and the observation data from the word document was also entered to ease the process of coding and analysis.

Once the texts were grouped then they were divided into meaning units and then it was condensed while still preserving the core meaning. From these condensed meaning units, codes or labels were given. These codes were grouped to form categories to express the manifest content and then developed into themes to expose the latent content of the data. A clear example of the process can be seen below.

	<b>Meaning units</b>	<b>Condensed meaning units</b>	<b>Codes</b>	<b>Categories</b>	<b>Theme</b>
ABL	ABL they don't have the skill to memorize,	No memorization skills	Lack of memorizing	Disadvantages of ABL	The mismatch of ideology and implementation
	Time got wasted in taking cards and preparing records.	Time wasted using materials	Time wastage		
	Most of the teachers did not have a satisfaction in the teaching in ABL	No teaching satisfaction	Lack of teaching satisfaction		
	I did not have a satisfaction to teach.	No teaching satisfaction	Lack of teaching satisfaction		
	When we were taking the cards of ABL and going individually we were not able to focus on the other students.	No focus on all children	Lack of focus on all children		
	it was not possible for a teacher to cover all children,	Not able to cover all children	Lack of focus on all children		

Figure 3: Example of Qualitative Content Analysis of the study.

### 6.3.3 Reliability and Validity

Reliability denoted the extent to which other researchers carrying out similar observations in the field and conducting analysis based on the field notes transcribed from the original data would lead to similar results (Franklin, Cody & Ballan, 2010). As it is evident from section 6.3.2, I have been very detailed in the process of coding and always stayed close to the verbatim accounts and answers of the participants. Even though in the process of coding and analysis, data was condensed, I consistently used quotes from the participants to support the inferential statements in the findings which increases the reliability of the research.

In qualitative research, validity addresses “whether the researcher sees what he or she thinks he or she sees” (Kirk & Miller, 1986 in Franklin, Cody & Ballan, 2010, p. 363). In simpler terms, validity refers to the preciseness of the findings. To increase the validity of this study, prolonged engagement and data triangulation methods were used. As it was an ethnographic approach, I spent 2 months in the field with 4 days per week in the school. This gave me the time to reflect on my changing perceptions over the period of time and avoid researcher’s bias by testing it over the period. I also collected data through interviews, questionnaires and observations which support each other and strengthen the validity of the research. However, it is impossible to be totally neutral in the analysis even though I followed standard procedures to enhance validity.

It is essential to position myself in the context of this study and explain the reason for interest in the focus areas of the research. I completed my schooling in a small town named Kovilpatti in Tamil Nadu, India and continued my higher education in English literature. My passion for education started with Teach for India fellowship in Hyderabad where I worked as an English and Social teacher for 25 students in a low-income private school. This experience exposed me to the challenges teachers and students face on a daily basis. My attitude that the cities are better in terms of education and job opportunities shackled which shifted my interest towards education in towns and villages. While there are various organisations in the cities to support the existing education



system through teacher professional development, I started wondering if the private schools in a city face such situations, what is the state of the government schools in rural areas. This curiosity deepened when I read about ground breaking policy changes from the state and national front with less effect at the ground level. I was intrigued to understand the perspectives of stakeholders who implement state level change, which led to the focus of this study.

## **6.4 Research Ethics**

As a part of ethical consideration, informed consent was sought from the participants for both interviews and questionnaires using the university consent form template (see appendix 1) which is in line with the GDPR regulations. The participants were informed about the purpose and focus of the study. It was clearly communicated that the participation in the research is voluntary and they can refuse to answer and withdraw at any time.

Confidentiality and anonymity have been maintained throughout the study in using designation and not revealing the name of the participants and assuring that the responses cannot be connected to the individuals. The interviewees have been named Teacher 1, Teacher 2, Teacher Educator 1 and Teacher Educator 2. For the questionnaire data, the teachers and the teacher educators have been numbered.

Since students were also present during my classroom observations, the parent community was informed about my presence as a researcher in the school premises. However, permits from the parents and children were not collected since it was negotiated with the management and it is not needed in the context of India since all the data collected were only focused on the teachers. No data was collected on children's activities or behaviours in the classroom.

## 7 FINDINGS

With each data set generating variety of opinions, ideas and perspectives on pedagogy, digital technology and in-service teacher education, the qualitative content analysis aided in coding and categorizing the data into specific themes. The findings from the analysis have been organised in a way that it answers the research questions of this study.

### 7.1 The need for SABL

From the answers of the questionnaires, 80% of the teachers expressed a collective opinion that ABL encouraged individuality and aided in the development of the children. 100% of the teachers felt that ABL was very suitable for a classroom of 15 or less and it was contextual for village children as well. While the teachers accepted the constructivist ideology and child centered pedagogy of ABL, the practical implementation had its own challenges. In the interviews, one of the teachers noted that,

When ABL was implemented it took us about 6 months to just bring it to action. It was confusing at first. To take cards, know about the levels, talk about logos, since there were more children and one teacher managing three grades, it was very confusing. (Teacher 1, Interview)

The teachers understood the benefits of ABL, but aspects like multi grade teaching, manual maintenance of attendance, enrolment details, scores from assessments and material usage created hindrances in the daily teaching practices. This mismatch of belief in ideology and practice combined with pedagogical difficulties led to negative implications of ABL. The teachers didn't have a satisfaction in the teaching as they believed usage of cards led to a waste of time in the class hours primarily because there was shortage of cards for the students. This problem was also emphasised by the teacher educator who said in his interview,

In ABL, there are groups and each group have 6 people. 2 to 3 children are given only one card which makes it difficult to learn. (Teacher Educator 2, Interview)

As ABL focuses more on critical thinking and higher order skills, teachers also complained that there were no memorization skills developed in the students. In the questionnaires, teachers expressed that they were not able to attend to all children since individual attention was given to each child which became difficult in larger classrooms. The teacher educators in their questionnaires also noted that the slow learners in the classroom remained stagnant over a period of time.

### **7.1.1 Parental involvement**

Apart from the challenges faced by the teachers on a daily basis, the failure to create awareness towards an active learning model among parents created a mistrust towards the government education system. From my observations, I noted that most of the children in the rural primary schools are first generation learners in their family. From the conversations with the teachers, they told that the parents of the children are mostly farmers and daily wage workers living in a tightly knit community. In interviews, one of the teachers expressed that the parent community is acquainted with the traditional model of teaching where there is loud teacher voice and repetition in the classrooms along with loads of homework.

They thought we were passing time and not teaching properly. Since we didn't give homework, they thought we didn't do anything in school. This opinion spread fast (Teacher 2, Interview).

When parents noticed teachers sitting next to children and interacting using cards and activities, with no textbooks, with no homework given every day and no exams conducted, the parents got into the assumption that the teachers are not doing their work.

Along with the shortcomings of ABL model, there were many changes introduced in a short period of time that created confusion among teachers. From

the literature review, it is noted that the Tamil Nadu government introduced textbooks and then Continuous Comprehensive Evaluation (CCE) pattern to experiment with the ABL model. As mentioned in the in-service teacher training session, the feedback from the teachers and impact analysis of ABL gave birth to the updated SABL with few major changes.

## 7.2 ABL and SABL: A pedagogical comparison

Both ABL and SABL adhere to the theory of constructivism and follows a child centered pedagogical approach. While the ideology of the pedagogy remains the same, few changes in the practical implementation part has been introduced with SABL or commonly known as new pedagogy. Through the observation data, it is noted that ABL uses levelled illustrated cards with logos suggesting activities and minimal usage of textbooks and SABL has introduced grade wise and full-fledged use of textbooks. The textbooks are integrated with the same logos in the cards and with QR codes. The QR codes leads to videos and resources for teachers to engage the children. As a teacher educator mentions in the questionnaire

New pedagogy is the better one. In ABL, the teachers had to use book and card at the same time. It is only book with new pedagogy and there is QR code for lesson content doubts (Teacher Educator 1, Questionnaire)

From the observations in in-service teacher training program, it is evident that digital technology plays a major role in SABL as a teaching learning resource. SABL also has workbooks for children's practice and teacher manual for guidance in lesson planning and teaching.

Secondly, the physical and emotional environment in the classrooms is taken into consideration. The interviews of teacher educators and teachers, and the report of Niesz, Krishnamurthy & Mahalingam (2011) mentioned in section 3.1 reveal that ABL encouraged an egalitarian classroom space with teachers seated with the children, blackboards on the classroom walls at children's level and free movement of children to the materials and activities in the classroom. The observations of the in-service teacher training shows that even though the

physical environment remains the same, it did not give any specific instructions on classroom space and teachers' and students' position and movement.

From the questionnaires and interviews with the teachers along with the report of Niesz, Krishnamurthy & Mahalingam (2011) mentioned in section 3.1, it is clear that in ABL students were grouped according to their competence and they were seated in their level mats irrespective of the age group. Moreover, in ABL the students progressed in the levels or card ladders in their own individual pace. Teachers assessed students individually and promoted them to the next level. The observations from the in-service teacher training reveals that SABL groups students according to the age and there is grade wise seating depending on the age. In SABL, learning is not self-paced, but it is in relation to the group or the grade the child is enrolled.

The final aspect of comparison is the school schedule and subject time allocation. From the report of Niesz, Krishnamurthy & Mahalingam (2011) mentioned in section 3.1, it is clear that ABL had a flexible time table with the units for half days. For example, the children will learn one subject from morning till lunch time at their own pace (Anandalakshmy, 2007). The content shared in the in-service teacher training shows that SABL has a very rigid timetable with minute details on the teaching learning process. Each day is divided into 3 slots with 1.5 hours per slot and the last 30 minutes of each slot is dedicated to group activities. The interaction in the first hour is also categorised as seen below.

## Classroom Transaction

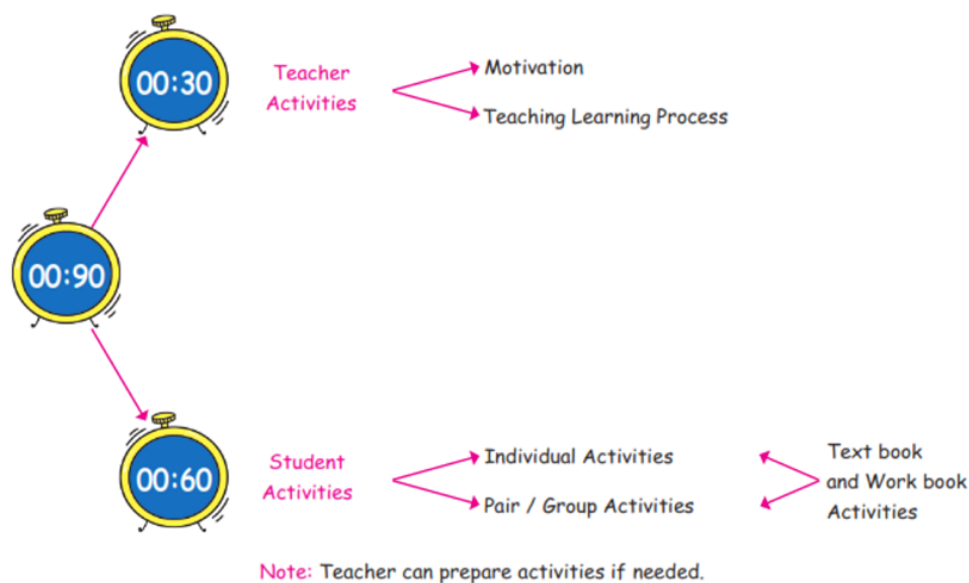


Figure 4: Classroom Interaction Process (In-service teacher training material)

In contrast to the in-service training of ABL model where teachers were the agents of change (Niesz & Ryan, 2018), the observation data notes that the in-service training of SABL perceives teachers to be the implementers of other projects.

Training is very monotonous, and lecture based. Teacher educator is telling teachers what to do in the classrooms by showing slides. Some teachers are taking notes and others are distracted when the teacher educator is speaking (Extract from Observation journal)

When the teachers are not involved in the planning process or the changes introduced in terms of integrating technology and textbooks, the quality and impact of the in-service training programs in educating the teachers is questioned.

### 7.3 How do the teachers perceive SABL?

Both the questionnaires and interview data show that all the teachers expressed a strong liking towards the SABL method. The main reason identified from the questionnaires are the teaching learning materials, the provision of textbooks,

workbooks and teacher manual which has been embraced along with the appreciation towards using vivid and colourful pictures in the textbooks and technology integration.

The teacher takes the manual home to prepare for classes next day. She also uses it to check answers for practice questions in the book. For a chapter on animals, the teacher asks the children to look at pictures and even draw and name the animals (Extract from observation journal)

Teacher manual helps teachers to lesson plan. Students to get all the resources. There are exercise which kindle student's thinking (Teacher 13, Questionnaire)

The teachers in the interviews expressed a belief that quality of the pedagogy has increased with the changes as the textbooks have been created with content and visuals which are at par with the Central Board of Secondary Examination (CBSE). In the interviews, the teachers affirm that the pedagogical change equips the students of Tamil Nadu to compete in national level examinations for higher education.

The teaching learning materials serve as enablers for improved learning in children as the textbooks with integrated technology attract children to focus more on studying.

I like new pedagogy- Since the learning is supported by pictures and audio it is better and students learn with interest (Teacher 10, Questionnaire).

The textbooks and pedagogy are designed to enhance children's growth holistically and also in connection with reality. On the cognitive skills, teachers through the questionnaires affirm that SABL encourages knowledge growth, learning outcomes and especially memorization skills which was neglected in ABL. The teachers find it easy to plan, prepare and execute lessons with SABL methodology. It also guides the teachers in planning and creating assessments.

The teachers conveyed in both the interviews and questionnaires that rigid schedule and timeline to be more convenient and gives them more control in the classroom environment especially when dealing with multi grade classrooms.

I like new pedagogy- since ABL was giving attention to each child individually it was difficult for us especially in two teacher schools, now this pedagogy addresses everyone and time saving (Teacher 11, Questionnaire).

With respect to the physical and emotional environment, in interviews and questionnaires the teachers expressed an interest in making changes in seating arrangements of the students, but the teachers continue to sit along with the students during interaction. In observations of the classroom space in the second month, it is evident that the teachers encourage the children to use the classroom space by using the blackboards.

The teacher finished teaching math tables. One of the students understood and learnt it quickly. The teacher asked the child to use the chalkboard space in the classroom and write down the tables from memory (Extract from the observation journal)

While the teachers receive SABL with open hands, there is a need to critically look at the changes especially when it trickles down to practical implementation.

#### **7.4 How does the changes in SABL compared to ABL affect the role of the teacher?**

In analysing the role of a teacher in a pedagogical reform, it is necessary to understand their background, qualification and everyday life. The first month observation data captured the life a teacher in a rural primary school. A typical day of a teacher in a rural panchayat union primary school in Tamil Nadu starts with a commute for 45 minutes-1 hour every day to reach the school as they are located in the interior villages and most teachers come from nearby towns. The teachers working in a primary government school have completed a two-year teacher training course, which is a basic qualification to become a primary school teacher. The teacher has to pursue B.Ed during the teaching career to get increment and also get higher degrees (M.A, M.Ed) to teach higher grades. Tamil is the main language used by the teachers both in the classrooms and in their households. The teachers use Tamil to explain and teach English subject in the classroom.



In Tamil Nadu, as one of the teacher educators in the interview notes teaching has become a lucrative and convenient profession. Becoming a teacher is the last resort to youngsters who are educated and unemployed. This leads to the society's negative opinion towards teachers in general. In addition to that, teaching is perceived to be safe profession for women which is evident in the state of Tamil Nadu where in primary schools, there are 283 female teachers per 100 male teachers (Government of India, 2012). With such disparity in the qualities of a teacher and the reasons for people choosing to be a teacher results in questioning the role of a teacher in the school and community.

With ABL, the teachers were required to shift from conventional lectures, memorization, rote learning, repetition exercises to group work, project-based learning, inquiry approach, collaborative tasks and discovery methods. This big shift in teaching strategies required teachers to plan, analyse and create a suitable learning environment. Since the core idea of ABL still persists with SABL, the role of the teacher remains similar with the need to acquire new teaching skills and to learn to use the teaching learning materials.

The child centered pedagogy requires a non-hierarchical environment where the teacher is not the sole knowledge provider but just a facilitator of learning. Being a facilitator of learning denotes a balance of teacher control and children's autonomy. Both ABL and SABL demand teachers to be facilitators. It was given that this aspect of the child centered pedagogy would not change with SABL. On the contrary, the teacher educators in their questionnaires revealed that teachers were providers even in ABL and there needs to be more practice for the teachers to completely be a facilitator of learning.

Adhering to the thoughts of Mahatma Gandhi (Kumar, 1993) who believed that textbooks are restrictive to both children's freedom and teacher's autonomy, the full-fledged use of textbooks and digital technology through smartphone leads to the hoarding of knowledge and information in the hands of the teacher. This induces a risk of falling back to traditional teacher centered and lecture-based method with teacher having more control over the content learnt in the classroom.

The ABL had levelled cards that required student movement in the classrooms and encourages student independence. It was practically impossible for the teacher to exercise tight control since it was individualised learning process. Currently, with textbooks, even though it is divided into activities (teacher led, peer learning and individual), the power to translate those activities into action lies with the teacher. Especially when the teachers express a strong liking towards the rigid timetable and schedule as it gives them more control as mentioned in section 7.3, student independence is questionable. In addition to that, the textbooks and use of smartphones also restrict student movement in the classroom.

The time table and classroom transaction procedures restrict the creative freedom of a teacher to experiment with their own activities in the classroom. The irregularity in the distribution of teaching learning materials heightens the conflict in being a child centered teacher in the SABL pedagogy. With one month into the academic year, the teachers have received teacher manuals for only grades 1,2 and 3, and the students haven't got their practice workbooks. With the three-term framework, the delay in issuing materials have left both the teachers and students handicapped.

On the other hand, the focus on learning outcomes at a state level and by the teacher educators gives teacher autonomy to design their pedagogical methods. The expectations are set with SABL that the teacher should use smartphones when needed and make the classes more engaging using the teaching learning materials. However, the defined learning outcomes is crucial in any pedagogy method. So, in the interviews, the teacher educator mentioned that when he assesses the children for outcomes and is successful, even if the teacher used his or her own method including some elements of the defined pedagogy, it is acceptable.

## 7.5 What are the teacher beliefs on digital technology-based instruction?

With the advancement in the field of digital technology and smartphones, there is a need to blend digital technologies in the teaching learning process. While at the state level and national level, development strategies and policies have been made to make school education more digital, it is essential to understand the beliefs of the stakeholders at the ground level, especially teachers who are supposed to be using it every day, for the successful interventions and learning through digital technology.

...technology is needed because as time changes, teaching should change accordingly, and it is welcomed. It is definitely necessary...the future generation to learn in the same old method is a waste...The new pedagogy and QR code might change with time as well...  
(Teacher educator 2, Interview)

The growing use of smartphones and the availability of internet for cheap prices in India, teachers and the teacher educators understand the influence the gadgets have in the daily life. While there is a strong understanding, the inclusion of digital technology-based instruction in the classrooms especially at a primary level exposes the core beliefs of the teachers in learning to use applications and smartphones to teach.

At a primary level, teachers believe that using digital technology is restrictive in pedagogy and children learn better with teachers.

Children learn better when teachers sing songs, gives expressions and entertains them, the satisfaction I get from doing that, I don't get it in showing videos. (Teacher 1, Interview)

The teacher-student interaction and relationship become more valuable and stronger with teachers engaging the children by dancing, singing, asking questions and playing with them. Most of the teachers during the conversations and interviews, perceived technology as a distraction for the children. One of the teachers in the interviews mention that when she shows videos and start to

teach using smartphones, the children think of them as fun and entertainment rather than a learning tool.

Technology based instruction is difficult to learn and integrate in everyday lessons. Among the teachers who attended the training, most of them are above 50 years of age. From my observations and interviews with teacher educators, it is revealed that the age of the teachers is considered as an obstacle in learning to use smart phones and mobile applications. As one of the teacher educators point out, the teachers prefer chalk and talk method over using smartphones in the classroom as they are not comfortable using it.

The teacher educator is telling about smartphone basics. He presents step by step instruction on finding RAM memory, Android version and then talks about play store and app download. Teachers around me didn't understand the technical terms and are struggling to find play store. Some teachers ask my help, some teachers gave up on the process (Extract from observation journal)

With smartphones, the instructions and technical words are in English which makes it demanding for teachers to endeavour the language skills and also technical skills. As one of the teacher educators note in the questionnaire data, there is always a tendency to follow the method that one learnt from than using innovating pedagogies suitable to the current generation. It can be defined as a generation gap or a rigid mindset towards change. With age, the willingness to change and learn reduces and one always tend to fall back to comfortable ways unless they are motivated to do otherwise.

From the interviews and questionnaires, teachers believe that digital technology is an additional resource to use during free time, and it doesn't integrate with the lessons. The teachers wanted to use the application as a supplement for their regular teaching sessions to show videos and give more information. There is a fear that learning might not happen if applications are used extensively in the classrooms during the lessons.

If I show the videos through smartphones first, the children don't listen, and they use it as a play toy. They don't concentrate. They don't accept it as a learning tool. They get distracted because of the phone usage. (Teacher 2, Interview)

Moreover, with multi grade teaching, which is the case in most of the schools, teachers expressed in the conversations that they find the students quickly diverted with one group watching videos and others listening to the teacher. There is struggle in students working independently or pair work with smartphones.

Teachers consider technology-based instruction as a time-consuming way of teaching that leads to dissatisfaction. From figuring out how to scan QR codes in the textbooks and playing videos to engaging multi grades at the same time, teachers find smartphones an unnecessary addition to the teaching method.

I was telling a teacher how to download and search for resources using the application in smart phone. After multiple tries, the teacher told, this is not working, too much time, I am not going to use it (Extract from observation journal)

With lack of resources, the teachers in questionnaires identified student enrolment as another hindrance in pedagogies that integrates technology. One of the teachers in the questionnaire mentions that if the class size is bigger, classroom behaviour management in using smartphones while engaging the other grade students becomes tiresome and time-consuming.

Digitalisation is going to become an inevitable part of a teacher's life with the schemes like biometric attendance entry to track teacher absence in all Tamil Nadu schools in the near future. However, the lack of resources in the schools is viewed as a hindrance for technology aided instruction. With network and internet limitations in rural areas, it becomes an additional task for the teachers to secure seamless internet connection and gadgets for children to use. At present, facilities like computers, projectors and tablets have been provided only in few schools in the districts based on the number of the students and the type of school. Most of the panchayat union schools are not technologically equipped which doubles the workload of teacher in implementing technology-based instruction. The lack of resources leads to implementation difficulties during multi grade teaching. However, if the resources were provided, the interest of the teachers to use it regularly is also questioned.

Some computers in the school are gaining dust, they are there for a showpiece and teachers don't use them (Teacher Educator 1, Interview).

## 7.6 What are the teacher views on the professional development program?

In the interviews with the teacher educators, they express that the process of pedagogical change is a step by step inclusion of change, starting from a pilot training and practice in two schools per district for six months and then a state wide training and implementation. While the pilot phase involves a more closed circle of representatives from all the stakeholders, the scaling up process follows a cascade model (refer to section 3.1). The model views professional development as a compliance rather than learning. Teachers are perceived to be implementers of the pedagogical projects rather than the agents of change. In the words of a teacher educator,

The teachers adapt to each method. Some might like the new method and some old, but whatever it is, they have to follow what the government says. (Teacher educator 2, Interview)

Even though the shortcomings of ABL and the feedback from teachers were taken into consideration, as the teacher educators mention in their interviews the curating process did not involve any teachers like it did in ABL. According to my observations, the training program was lecture based and did not engage teachers in discussion or addressing their teaching needs. It was a space to receive information and follow it rather than collaborating in applying the new pedagogical approach. Through my observations, it is ironical to note that the in-service teacher training was very behaviourist in nature when the teachers were expected to implement constructivist pedagogy.

The two-day training started with motivation video from Director of education, then the teacher educator explained about changes and need of SABL. After which, there were only lecture sessions on smartphone usage, textbook usage and pedagogy (Extract from observation journal)

Through my observations, it is revealed that the teachers find a personal disconnect with the teacher educators and themselves. Teacher educators were considered the experts and knowledge givers while teachers were just receivers and executors. This knowledge hierarchy caused a discomfort and lack of trust between both the stakeholders which was visible in the trainings. There was a blame game where teacher educators believed that the teachers never listen to their instructions. The teachers in turn blamed the teacher educators for not understanding the reality as they never experienced teaching in the classrooms. This tension prevented the in-service teacher training space to be a collaborative place for change.

On a positive note, the in-service teacher training has helped the teachers in a smooth transition from ABL to SABL form of pedagogy. The questionnaire data from the teachers revealed that the two-day training has served as a beginning step for many teachers in learning about the world of technology. Most of the teachers were keen in implementing the digital technology and teaching learning materials in the classrooms after the training.

In the classroom environment, I will scan the QR code in the textbooks to show pictures and videos and explain the students (Teacher 3, Questionnaire)

One of the teachers in the interviews mentioned that the training helped the teachers with previous knowledge in using technology more since it was fast paced. The conversations with teachers showed that the training initiated few basic changes like timetable, chart presentations, seating arrangements in the classrooms aligning to the new pedagogy. The teachers mention that it enabled them to diversify their teaching approaches and gave exposure to ways to enhance student skills. Aligning to the answers of the teachers, the second month of observations noted that the teachers started using textbooks and manuals, made seating changes for students to sit according to their grade but technology integration was still absent in the classrooms.

In the questionnaires, the teachers suggested that the training should focus more on application of the learning through demonstrations and practice rather than presentations and lectures. The teachers also mentioned in the interviews

that they required more training in enhancing subject wise teaching skills and also ways to encourage students to express. According to the observation data, the demo lessons on the day 2 of the training elaborated on the step by step method of teaching specific subjects. Each subject textbook and the logos present were explained in detail. While the first day of training elaborated on technology usage, it was contradictory to note through observations that the teacher educators did not demonstrate teaching using smartphones in their demo classes.

The English subject training for grade 1 mentioned a song in the beginning of the lesson named "Good morning to you." The teacher educator asked the teachers to sing the song. The teacher educator didn't mention that the video version is available on the DIKSHA app, and the teachers can show it to the children using smartphones (Extract from observation journal).

The observation data noted that most of the teachers have a background in Tamil medium education and teach in Tamil medium schools. With the growing demand for English among the parent community, the teachers mentioned in their questionnaires that they wanted training to include sessions on their personal language development and methods to improve student's English language skills.

The questionnaire data also showed that the teachers want the trainings to be sustained and consistently worked on through the course of the year. While the pedagogical change was implemented state wide in the month of June, the teachers received their training only in July, which is almost the end of the first term. This delay in training caused confusion in the using of teaching learning materials and the method of teaching in the first month. On the other hand, this delay is also looked as a positive aspect in the trainings, as one of the teacher educator notes in the interview,

We have given the training in July, so when they teach in June without any training, they have faced difficulties, so they listen to us with interest. (Teacher educator 1, Interview)

Apart from that, the observation data notes that the training was conducted for a period of two days from 9AM to 4PM. While being very interested



in integration of QR code in the textbooks, the teachers were struggling to download the scanner and DIKSHA applications. The conversations with the teachers indicated that they required more training time to know their basics. Apart from the technical skills, the teachers were satisfied with the training on using textbooks, workbooks and teacher manuals, and also with the schedule and time table.

## 7.7 Summary of the Findings

The findings from the interviews, questionnaires and the observation field notes collate the features of teachers' perception of SABL, teachers' role in SABL, teachers' belief about the digital technology enhanced pedagogy and teachers' view on the current training model. It also reviews the shift from ABL to SABL through a pedagogical comparison. The study therefore revolves around the teachers and their standpoints on the aspects of the pedagogical changes.

Even though ABL was a breakthrough in the pedagogical approach in Tamil Nadu with the welcoming hands of the teachers, it had its own disadvantages. The practical difficulties and the problems with parental involvement resulted in the current SABL which still adheres to the constructivist ideology but has introduced some major changes with teaching learning materials and digital technology in the pedagogy. The teachers appreciated SABL pedagogy as they trust the quality and standard of the textbooks. They find it easy to use the textbooks rather than activity cards. The handbook helps them to create lesson plans and also design assessments. The strict timetable and classroom transaction give more control to the teachers in the classroom which doesn't match the child centered ideology and makes them aware of the activities and performance of each child. They are also eager to learn about the digital technology and using the applications in the classroom.

The first section focuses on the research question "**How does the changes in SABL compared to ABL affect the role of the teacher?**" From the data, the features of the role of the teacher in the current SABL pedagogy was explored

with respect to society and pedagogical changes. The respect towards a teacher and the value of teaching as a profession has been diminishing in the eyes of the society especially in the education system of Tamil Nadu. This view affects the functioning and the role of a teacher in the school and the community. With the introduction of ABL, the teacher takes upon the role of a facilitator and guide in the learning and teaching process. The belief towards constructing knowledge which forms the base of such pedagogies is absent in the classrooms. There are more chances of teachers winding back to their traditional role of information givers with the full-fledged use of textbooks and digital technology. SABL inately provides minimal opportunity for student movement which increases teacher control in the classroom.

Furthermore, SABL restricts the teacher autonomy to experiment as it has predefined timetables and procedures. The lack of sufficient teaching learning materials renders itself to complications such as teacher being a facilitator and following a child centered approach. However, the priority given to the learning outcomes increases the flexibility of the teachers in exploring teaching techniques.

The second section focuses on the research question “**What are the teacher beliefs on digital technology based instruction?**” Teachers believe that digital technology has become an inevitable part of our daily life and it is necessary to include it in pedagogy. However, they believe that for a younger group of children, especially from rural areas where there have not been exposed to digital technology, smartphones and video applications can become distractive and is considered often as a play tool. Learning to use digital applications is difficult for the teacher community who are in the age range of 40-58 years. With the struggle to learn, teachers use digital technology only as an additional tool. Even then, they find it time consuming and not suitable for big class sizes and multi grade teaching. For the teachers to understand and practice using smartphones and applications, they require adequate resources in the schools. The absence of internet and the gadgets because of the location of the school and other financial reasons, using digital technology becomes burdensome.

The final section concentrates on the research question “**What are the teacher views on the professional development program?**” The in-service teacher training program follows cascade model. The teachers view the training program as a place to receive information about the changes in pedagogy. There is an absence of discussion and collaboration. The teachers don’t find themselves connected with the teacher educators which makes it difficult for them to personally adhere to their instructions. However, the training aided the teachers in knowing about SABL and in kindling their curiosity about digital technology. They required more time since most of the teachers were novel to the use of smart phones. The teachers expected more of demo classes and practical representations of pedagogy along with their own personality development in the training programs. They also needed a consistent training and feedback sessions throughout the year.

## 8 DISCUSSION

This section throws light on the three main discourses that emerged from the key findings in relation to the research questions, theories and concepts mentioned in the literature. The first discourse is about the mismatch between government’s pedagogical aspirations and teachers’ pedagogical perspectives. The second one focuses on the gap between the digital technology integration measures and the current reality in schools. The final discourse questions the efficiency of the teacher professional development model in implementing pedagogical changes. It concludes with the debate whether pedagogical changes and practices introduced under constructivism and child centeredness adhere to the ideology.

Theoretically, the pedagogical reform in Tamil Nadu has been influenced by constructivist theory and child centered pedagogy. It is also based on the opinions of the philosophers and theorists like Piaget in Tzuo (2007), Montessori (1984), Dewey (1988), Aurobindo in Smail (2014), Mahatma Gandhi in Kumar (1993) who emphasis on the role of a teacher in child centered pedagogy as

mentioned in section 4.2.1. In their words, teachers are supposed to be observers, supporters, helpers, guides who imparts originality and show children how to acquire knowledge for themselves. The translation of such vision appears transformational in papers, but at a ground level the teacher's perspective on his or her role from pedagogical standpoint is completely varied.

The government aspires the teachers to implement the pedagogical changes effectively after a two-day teacher professional development program. On the contrary, the teachers express that they need extended time and support to understand their role as mentioned in section 7.1 and the adapting process highly depends on one's own learning background and their readiness to change. While the teachers are expected to be a child centered teacher who encourage children autonomy, the findings reveal that teachers are satisfied when they have more control over the classroom with tight schedule and textbooks in SABL which is similar to the studies of Song (2015), Fung (2015) and Wang (2011) mentioned in the section 4.2.1.

The teachers' pedagogical perspective is also affected by the conflict in government's pedagogical aspirations and reality. While the government aspires for a child centered pedagogy, there are constraints in implementation such as lack of resources, improper infrastructure, centralized curriculum, strict examination time tables, inconsistent distribution of materials and irregular teacher support as mentioned in the section 4.2.1 and pointed out by Sriprakash (2012), Smail (2014) and Kumar (2005), which handicaps the teachers to explore the child centered pedagogy and implement it full-fledged. This is also evident in the findings of the study mentioned in the section 7.4, that one month into the academic year, the teachers haven't received the teacher manuals and the student workbooks.

The Tamil Nadu government emphasises the use of digital technology with SABL pedagogy and hails it to be a solution for the problem teachers face with multi grade teaching and class sizes. On contrary, the findings mentioned in section 7.5, reveal that the teachers believe that digital technology is inevitable in daily life but restrictive in pedagogy, distractive, difficult to learn and integrate, time consuming and acts only as an additional resource. The findings

partly reflect the relationship between teacher's pedagogical beliefs and digital technology integration is bi directional as mentioned in Tondeur et al.'s (2017) meta-analysis in section 4.2.2. While the teachers are interested to use DIKSHA applications to learn for themselves and in the classrooms, they find it difficult to practically implement it.

While the government has taken measures to integrate digital technology in pedagogy through two day training, the current reality is different as the teachers stress on the fact that they need more time and support to learn the use of smart phones and be comfortable in seamlessly integrating it in their teaching methods as mentioned in the section 7.5. The Tamilnadu government has made a big financial investment by distributing tablets at the ratio of 1:5 to ten schools per district (Selvam, 2018). Even though a huge investment has been made, the resources needed to integrate digital technology has not reached all the schools at a state level as mentioned in section 7.5. As the government emphasises on the integration of digital technology in classrooms through investment and training, the effects of these digital interventions are unclear as noted by Shields (2011), Linden (2008) and Muralidharan (2013) in section 4.2.2.

The government of Tamil Nadu aims to achieve an efficient implementation of pedagogical changes through a two-day teacher professional development program on pedagogy and digital technology integration. The traditional cascade model is used for its ability to reach more people in a time efficient and cost-effective manner. On the contrary, the findings in section 7.6 reveal that the teachers were not satisfied with the program as it had less demonstrations and practice lessons and it failed to shift teacher views on pedagogy (section 7.4) and equip teachers with use of digital technology in classrooms (section 7.5).

According to the literature review and findings, it is evident that a constructivist child centered pedagogy can be carried out only when the teacher has experienced and understood the benefits of such approach. The teacher professional development program aims to train the teachers on the pedagogy focused on constructivism where the teacher was supposed to create an egalitarian space for children to construct their knowledge. On the contrary, as men-

tioned in the section 7.6, the sessions used behaviourist training methods-lectures and notes in a space with high positional hierarchy with the absence of teacher agency and teacher voice.

Teacher agency which stood as a pillar of strength during the dissemination of ABL withered due to the cascade model as noted in section 3.1 where even after ten years of implementation, only 6% of teachers had high buy-in. In SABL trainings, teachers were considered as implementers rather than the agents of change which resulted in a personal disconnect with the trainers and decreased belief in the ideology (section 7.6). The teachers' voice was absent in the trainings which led to irrelevance and disinterest in the training when they don't address or discuss the practical issues as mentioned in study on Turkish teachers (Ayvaz-Tuncel & Çobanglu, 2018) in section 4.2.3 supported by the findings in section 7.6.

The discourses clearly state some major challenges in shifting the pedagogical culture from performance-based pedagogies to competence based pedagogies. As Knausz (in press) stresses, "some pedagogical innovations require a shift in pedagogical culture, that is, they cannot materialise without a turn or change in the entire culture (mentality). This means that even the smallest changes prove to be futile if intervention does not focus specifically on cultural structures". This failure to address the culture and the challenges especially in developing countries creates a contradiction in the pedagogical practices in the classrooms and the ideology put forth by the government policy makers.

These challenges show that even though cascade model reaches more teachers in a short period of time and cost-effective, it is inefficient in meeting the needs of the teachers, achieving learning outcomes and sustainable impact. This brings to the question if there needs to be investment in smaller learning and training programs that focus on space for dialogue and collaboration which aids in a shift of teacher belief and mindset even though it is expensive but provides long term impact on the pedagogy.

## 8.1 Recommendations

In an attempt to create a collaborative space, this section recommends methods and practices that can be incorporated into the current in-service training program to make it more efficient and impactful. While the teacher professional development programs continue to follow the cascade model of dissemination, because of its cost effectiveness and ability to reach a larger number of teachers, the model of the sessions should be altered to improve three factors – teacher agency, teacher interaction and collaboration.

The crucial factor that needs to be built in the teachers is a sense of agency and change. Currently, the participants talk about the changes that needs to be made but are comfortable with going back to a routine. Changing individual mindset is a difficult task especially with adults. The previous knowledge and the practice from childhood comes into place. With consistent effort and continuous activities, it can be gradually improved, and it will instill an understanding of their self as a teacher. Some of the activities that can be included are,

- Motivational boost

Showcasing stories of change within the context to instill the belief that the teachers also have the power to formulate and implement a solution. It can be done through a meeting with people who have created change or through videos. It is necessary to deconstruct the process through a questionnaire or discussion.

In the context of the study, stories of teachers like Annapurna Mohan (Nair, 2017) and G. Bhagwan (FE online, 2018) who created transformation in the classrooms irrespective of the external conditions in Tamil Nadu can be showcased. Annapurna Mohan struggled hard to develop the language skills of her students by introducing phonics and transformed the entire classroom with smartboards and projector. G. Bhagwan worked towards increasing the academic levels of the students and guided them in their desired career path that the students refused to let him transfer to another school. Their achievements have been possible only because of their inner motivation and strong agency.

While the first aspect concentrated on individual mindset to change, the second aspect involves other teachers and the quality of interaction between them. Currently, in the training sessions, there is interaction among the teachers, but it is mostly on personal issues and family situations. There is a lack of focus or even alignment to the professional struggles in these dialogues. The activities suggested below are proposed strategies by Roselli (2016) for university students to encourage collaborative learning and it is suitable to the context of this study.

- Mediated opinion transmission

Teachers in groups of four form pairs and gives opinion to one another after which it is exchanged and then a joint assessment is conducted. The aim of this activity is to make teachers listen to each other patiently and to give their opinion as a response. This activity can be repeated with variety of issues that the teachers have noted in the reflective notebooks (Roselli, 2016).

In the context of the study, this session can be conducted in the beginning and end of the two-day training program focused on issues like classroom management, behaviour, pedagogy. Such sessions will give the teachers and teacher educators an in depth understanding of the issues that needs immediate attention.

The final step after building an open mindset and quality interaction is to give a purpose to the collaboration. The purpose should be something that the group of teachers are passionate about. The process should accommodate the implementation of the results and continue to a cyclic activity. The ultimate goal is for the teachers to replicate such processes in the classroom and the parental community. Both the collaborative design process is cyclical in nature and has room for continuous improvement.

- Design thinking

The process of design thinking is a solution-based approach that has five stages of thinking – empathise, define, ideate, prototype, test (Brown, 2008). The group goes through each stage and then tests the solution to redefine the problem and work on it more.



In the context of the study, the design thinking sessions should happen with School Management Committees (SMC) which involves the parents, students, teachers and BRC with a regular follow up from the BRCs.

The above-mentioned activities are just a sample for developing a full-fledged module on enhancing collaboration. The activities should be conducted for the teacher educators first so that they trust the process and replicate it among the teachers. The belief of the teacher educators who act as facilitators is very important and the outcomes can vary depending on that.

## **8.2 Limitations**

There are few limitations that should be taken into consideration while reading the analysis and results of the study. The first limitation would be the sample size. With the focus on rural primary government schools, only two schools were observed for data. However, I spent two months in the field and collected intensive data through field notes and journal. Apart from that data was collected from only two teachers and two teacher educators through interviews, and 18 teachers and two teacher educators through questionnaires. The results might be different with a bigger sample size and varied contexts like towns and cities. The second limitation would be the concentration on the perspectives of teachers. Given the time frame, it was not possible to collect the opinions of other stakeholders like children, parents, education officers to validate and get a holistic understanding of the research focus. Another limitation would be the time period of the study. As an ethnographic research, it would have been stronger if the study was conducted for many more months to completely understand the reform.

To extend the study, an intervention module can be designed based on the above-mentioned activities and the impact can be measured with the focus that the teachers have to experience learning through constructivist environment first, understand the benefits, so that they can implement it in their classrooms.

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## 10 APPENDICES

### Appendix 1: University Consent Form

UNIVERSITY OF JYVÄSKYLÄ

FACULTY OF EDUCATION  
AND PSYCHOLOGY

#### RESEARCH PERMIT

I am Gomathy Soundararaj. I am working on my master's thesis in Education. In my research, I investigate on learning environments, teacher training methods, pedagogy and implementation. My research helps in identifying the problems in the education system of Tamil Nadu with respect to learning environments and assessing the implementation of pedagogical methods.

The supervisor of my thesis is University Teacher Tamás Péter Szabó, Ph.D. (e-mail: [t\\*\\*\\*\\*\\*@jyu.fi](mailto:t*****@jyu.fi)).

Data is collected through interviews, observation notes, questionnaires and video recordings. The data is video recorded, voice recorded and photographed.

Participation in the research is voluntary, and consent can be withdrawn later at any point of the research process. Research data is handled and used in a confidential manner. Research data is handled and presented in a way that research participants' personal identity cannot be revealed. Research data is handled according to the data management principles of the University of Jyväskylä.

I gladly provide you further information about the research; please feel free to contact me via e-mail: [g\\*\\*\\*\\*\\*@student.jyu.fi](mailto:g*****@student.jyu.fi) or phone: +91 9\*\*\*\*\*

I request your consent to participate in the above-mentioned research. Thank you for considering my request.

With best regards,

Gomathy Soundararaj.

Please send your answer back to me by 16.07.2018

**I hereby give my consent to my participation in the above-mentioned re-  
search**

yes

no

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Date and place

Signature and clarification of name

## Appendix 2: Teacher Questionnaire

Name \_\_\_\_\_ School name \_\_\_\_\_

Contact number (whatsapp) \_\_\_\_\_ Age \_\_\_\_\_

E-mail ID \_\_\_\_\_

### Background data:

1. How many children are there in your school?
2. How many teachers are there in your school?
3. What grades do you teach?
4. How many children do you teach?

### Training and Implementation:

1. After the knowledge about the new pedagogy, which one do you like the most, ABL or New pedagogy? Give reasons.
2. Name one thing that you will implement in your teaching technique after the training on new pedagogy.
3. The demo lessons on the second day of training taught me how to implement new pedagogy in classrooms. Do you agree? Give reasons.
4. What kind of support do you need when you implement the new pedagogy?
5. Which part in the training do you feel you need more time or support to use efficiently?
6. I need more training on how to use the DIKSHA app in my classroom. Do you agree or not? Why?
7. How often will you use the DIKSHA app in your teaching? How will you use it?
8. What kind of changes will you make in your classroom structure for the new pedagogy? (Seating, charts, resources, timing, schedule)
9. How do you think the additional resources like workbook and teacher manual will help you in teaching?
10. What are the some factors in the new pedagogy you need more information or more training to use?



11. If you had one suggestion to improve the training session, what would that be? (content wise)

**General information:**

1. Tamil medium schools have decreasing number of student enrolment every year. Do you agree? Give reasons.
2. The attraction towards English is one main factor for decrease in student enrolment. What are some things that can be done by the teachers/by you to enhance English language skills of the student?
3. Write 3 ideas that can be implemented by the teachers to increase student enrolment.

### Appendix 3: Teacher Educator Questionnaire

Name \_\_\_\_\_ Block name \_\_\_\_\_

Contact number (whatsapp) \_\_\_\_\_ Age \_\_\_\_\_

E-mail ID \_\_\_\_\_

#### Background data:

How many schools do you have for visits?

How often do you go for visits?

How many teachers do you manage?

#### Training and Implementation:

1. After the knowledge about the new pedagogy, which one do you like the most, ABL or New pedagogy? Give reasons.
2. How do you offer support for teachers who are still struggling with new pedagogy?
3. What was your part in designing the training session?
4. Which part of the training do you think the teachers needs some more time to learn?
5. Do you think all the teachers learnt to use the DIKSHA app effectively? If yes, how?
6. When you visit a classroom after the training, what are the 5 things you expect in the classroom, students and teachers?
7. What kind of training did teachers get in using the manual or workbook?
8. If you had a chance to do the training session again, what is one thing you would change?

#### General information:

1. Tamil medium schools have decreasing number of student enrolment every year. Do you agree? Give reasons.
2. The attraction towards English is one main factor for decrease in student enrolment. What are some things that can be done by the teachers/by you to enhance English language skills of the student?
3. Write 3 ideas that can be implemented by the teachers to increase student enrolment.