

Innovation in the *Kachi*

An Early Childhood Education Research Report



Mahenaz Mahmud
Donald Mckay

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An ECE Research Report



making a difference

Teachers' Resource Centre, Karachi, Pakistan
December 2006

The Teachers' Resource Centre

The Teachers' Resource Centre (TRC) was created as an independent, non-governmental organisation in 1986, by a small group of private sector head teachers who were extremely concerned about the low status accorded to teachers. They were discouraged by the sliding state of education in the country, and by the numerous failed education reforms and government initiatives. With each new policy came new accusations as to why the previous initiatives had failed. The founding members of TRC decided that it was time to stop placing blame, and instead shoulder the responsibility of change. They wanted to provide a platform to improve teachers' professional development that would also act as a bridge between the well-funded schools and the disadvantaged schools within the private and public sector systems. The mission of TRC is:

To contribute to improving the quality of children's learning experiences through changing teachers' perceptions of the learning process.

TRC's experience of supporting ECE goes back to its inception in 1986. Since then, TRC has been developing and implementing ECE programmes for in-service teachers of well-resourced private schools; NGO and community-based schools; and public sector schools in low-income areas of two provinces, Sindh and Balochistan. In the public sector, ECE training was extended to head teachers and supervisors to ensure their added support for teachers and children in *Kachi* classes. To widen the scope of ECE training in the provinces, TRC also trained workshop leaders from the education department.

Since 1998, TRC has played a key role in enhancing the profile of ECE in the public sector in Pakistan, leading to a higher level of commitment to ECE within the education system, government circles and the communities where it has been implemented effectively. Building on these successes, in March 2000, TRC began a policy dialogue with the Ministry of Education (MoE) that eventually resulted in the development of Pakistan's first National ECE Curriculum, which was one of the first public-private partnerships of its kind. The MoE also requested that TRC provide major inputs for the ECE section of the National Plan of Action (2001-15), as well as papers on ECE for the EFA conferences in Dakar (2000) and Beijing (2001).

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*Teachers' Resource Centre
Karachi*

Abstract

This report will describe the findings of a study of curricular innovation in kindergartens (*Kachis*) in Karachi, Pakistan. The project, of which this study was a part, was located in publicly-funded schools in impoverished areas. The findings demonstrate how high quality early childhood education can be universally accessible and reflect a society's culture. It presents a model adapting ideas from developed nations to fit the Pakistani culture. The project aimed to implement an appropriate early childhood curriculum for the *Kachis*, which reflected cultural values and norms, while using internationally accepted child development theories as a foundation for the curriculum. It was implemented using action research techniques with evaluation and analysis of the project using a qualitative approach. Activities within the project involved developing appropriate ECE practice in consultation with heads, teachers and parents; piloting culturally appropriate curriculum guidelines for teachers; and training future workshop leaders for greater outreach. Effective teacher-made materials and locally prepared curriculum resources were developed for the project. These are models for ECE in majority-world and developed nations. The project developed a unique change process for teachers immersed in traditional models. The connections between first language proficiency amongst the project's children and their success in a range of academic areas has implications for curriculum development in locales where learning English is highly valued by parents. The project led to an engagement in policy dialogue, that resulted in the curriculum being formalised as the National ECE Curriculum for Pakistan. The project was found to impact on the attitudes towards early childhood programmes in the community and government.

Glossary

<i>Aboo</i>	Father
<i>Ammi</i>	Mother
<i>Anaar</i>	<i>Pomegranate</i>
CIDA	Canadian International Development Agency
CLEF	Children's Learning Environment Format
CS	Control Schools
DEO	District Education Officer
DMC	District Municipal Corporation
ECCD	Early Childhood Care and Development
ECCE	Early Childhood Care and Education
ECD	Early Childhood Development
ECE	Early Childhood Education
ECEP	Early Childhood Education Programme
EFA	Education For All
ES	Experimental Schools
ESR	Education Sector Reforms
ERF	Enrolment and Retention Format
GGPS	Government Girls' Primary School
<i>Gosha</i>	Learning Corner
Head	School head
ICPD	Initiating Change through Professional Developing
ICT	Islamabad Capital Territory
<i>Kachi</i>	Pre-primary
K-G	Kindergarten
<i>Massi</i>	Literally 'aunt'/Maid
MoE	Ministry of Education
<i>Nazim</i>	Mayor
NGO	Non-Governmental Organisation
RCC	Releasing Confidence and Creativity
SMC	School Management Committee
SDEO	Sub-Divisional Education Officer
TLO	Tracking Learning Outcomes
TPF	Teacher Profile Format
TRC	Teachers' Resource Centre
Unesco	United Nations Educational Scientific and Cultural Organisation
Unicef	United Nations Children's Education Fund
UPE	Universal Primary Education

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Introduction

TRC has long recognised the importance of Early Childhood Education as the foundation for later learning, which is supported by established international studies. Compelling research demonstrates the importance of early experiences and learning for children from 0-8 years, and their link to achievement later in life. In addition, a multitude of studies indicate the crucial role of quality ECE in improving the lot of children who are disadvantaged in some way. TRC's early experiences within the government sector, through its major project 'Initiating Change through Professional Development' (1992-1996), revealed the neglected status of *Kachi* children in schools. This led to the development of a new project with a major component dedicated to improving the learning and development for these young children. The result was the Early Childhood Education Project, part of the Social Institutions Development Programme funded by the Aga Khan Foundation and CIDA¹ that is described in this paper.

This report describes the Teachers' Resource Centre's (TRC) Early Childhood Education Project (ECEP), initiated in 1997. Through the first phase of the ECEP, TRC set out to work with ten government schools in District South, Ranchore Lines sub-division and ten District Municipal Corporation (DMC) schools in District Central, Liaquatabad Zone, in Karachi.

The government schools had no provision for a *Kachi* (pre-primary) class; the DMC schools had a pre-primary class with a traditional rote-oriented curriculum. At these schools, early childhood education was introduced in the *Kachi* classes managed by teachers trained by TRC in a child-centred, active learning approach to education. As a follow-up to the training, TRC provided regular classroom support in terms of observation and feedback and demonstrations of active learning. An ECE curriculum framework, as well as various teaching-learning materials, were developed in consultation with heads, teachers and parents, based on action research techniques. The ECEP was found to impact on the learning and development of the children; the teaching and professional attitude of the teachers; and the attitudes and support from the community and government for child-centred, activity-based early childhood programmes.

¹ The programme is funded by CIDA, the Canadian International Development Agency, and managed by the Aga Khan Foundations in Canada and Pakistan.

Education in Pakistan

Education in Pakistan has been in crisis for many years. A lack of leadership, commitment and resources has led to some of the worst educational indicators in the region and the world² Over 50% of the population is illiterate and nearly two-thirds of women are illiterate. The net primary school participation rate is 66%; 82% for boys and 50% for girls³. In 2000, of the 18 million children of primary school age (5-9 years) only 12 million were in school, and the total number of 'left outs' was approximately 6 million.

There have been numerous educational policies and five-year plans since 1947, which have repeatedly failed and targets for UPE and compulsory education have been continually deferred. The Education Sector Reforms Action Plan 2001-2004⁴ is based on implementing the National Education Policy:1998-2010. Included within this is the innovative programme under the section on Universal Primary/ Elementary Education, which aims to improve primary access and retention and the well-being of young children.

ECE in Pakistan

ECE in Pakistan is generally taken to refer to the pre-primary/reception or *kachi* class, although there are some projects that work with the age range of 0-3 that are beginning to widen the understanding of ECE. It has traditionally been a neglected area in education, although some classes have been present since before independence in 1947⁵. Government records⁶ state that the total population of 3-5 year olds was 8.1 million in 2000. The net enrolment is estimated to be 2 million, with a total of 6 million 'left outs'.

Many children under the age of 4 accompany their siblings to school, but remain outside official statistics. The private sector has been much more effective in establishing pre-schools, nurseries, kindergartens and Montessori schools. Figures also show that the highest drop out rate in the public sector occurs by or during class 2.

Global Issues in Early Childhood Education

The importance of a rich and nurturing environment for young children has been understood since the beginning of the last century. In the following discussion, the ECE issues, both in Pakistan and internationally, will be reviewed to provide a background for the intervention that is the focus of this paper.

The importance of sound education in the early years has been studied, described and promoted since early in the last century. Montessori⁷, Dewey⁸, and Froebel⁹ created strong models, which still serve as the foundations of curricular theory for Early Childhood Education. The impact of their work has been seen worldwide, as programmes that attach importance to the development of appropriate environments in which young children can thrive.

² Warwick, D.P.& Reimers, F. (1995): *Hope or Despair? Learning in Pakistan's Primary Schools*, Connecticut/London: Praeger

³ National Plan of Action on Education for All (2001-2015) Pakistan: MoE: Islamabad

⁴ Government of Pakistan (2002): *Education Sector Reforms, Action Plan 2001-2004* MoE: Islamabad

⁵ Ghulam Ali, A. (1990): *Situation Analysis of Basic Education in Sindh*, Pakistan: UNICEF p 35

⁶ National Plan of Action on Education for All (2001-2015) Pakistan: MoE: Islamabad

⁷ Montessori, M. (1965). *Dr. Montessori's own handbook*. New York: Schocken Books.

⁸ Dewey, J. (1963, c2938). *Experience and education*. New York, N.Y.: Collier Books

⁹ Fröbel, F. (1826) *On the Education of Man (Die Menschenerziehung)*, Keilhau/Leipzig: Wienbrach.

Unesco's 2006 Global Monitoring Report outlined principles that should be a part of any effective ECCD programme¹⁰. The key principles are:

While successful ECCE programmes are extremely diverse, both within countries and around the world, certain general lessons emerge. First, early childhood programmes need to be rooted in the young children's cultural environment and care must be taken not simply to import models from abroad without appropriate adaptation. Second, parenting programmes can support positive child-rearing practices, which again need to be understood in their social and cultural contexts. Third, good relations between pupils and ECCE teachers and staff are crucial to programme quality, and much more important than material inputs. Fourth, inclusive ECCE programmes can help offset disadvantage, whether poverty, emergency situations or special needs. They can also promote gender equality and other forms of inclusion through appropriate role models and linguistic diversity. Fifth, maintaining continuity is key in easing the transition from pre-primary to primary school and effective approaches are available even for those who have not been able to attend ECCE institutions such as pre-schools.¹¹

Economic disparity is an obvious and major factor in any examination of the state of ECE internationally. Beyond economic issues, there are many challenges that are shared by practitioners promoting strong ECE programmes worldwide. In 1992, Robert Myers surveyed programmes in the majority world and completed research in both the developed and the majority worlds¹². His research demonstrates that a strong foundation in the early years (beginning at birth) not only impacts the life of the individual, but also the lives and the potential of subsequent generations. Myers believes that a strong foundation includes: an articulation of home and school environments, support and education for parents, flexible responses to enrich the children's communities, programmes that reflect the community and its culture(s) and mobilization of social institutions at all levels to ensure that programmes are sustainable.

The Unesco principles are closely aligned with and influenced by the model proposed by Myers¹³. They both see the necessity of programmes that are nested within, and appropriate for, the children's communities. They agree that integration of home and school are critical, and stress the need for programmes that commence at birth. Findings from an ongoing study in Toronto (Canada) are mobilizing communities to integrate services for young children and their families in school hubs, so that the programmes are seamless and accessible for children and their families. Early indications are that this seamless approach has a positive impact for the parents and the communities, and is also enhancing the children's development. In addition, the 'ways of working' for all the practitioners are changing significantly.¹⁴

The importance of programmes that begin as early as possible continues to be stressed in research on and programmes for young children, globally.

¹⁰ Unesco, (2006¹), *EFA Global Monitoring Report 2007*. Geneva: UNESCO

¹¹ Unesco, (2006¹) pp. 154 - 156

¹² Myers, R. (1992). *The Twelve Who Survive*. London: Routledge.

¹³ *ibid*

¹⁴ Corter, C., Bertrand, J. Pelletier, J. Griffin, T., McKay, D., Patel, S., and Ioannone, P. (2006). *Evidence-based understanding of integrated foundations for early childhood*.

http://www.toronto.ca/firstduty/TFD_Summary_Report_June06.pdf

Education for All Initiatives:

The United Nations' Universal Declaration of Human Rights asserted that "everyone has a right to education."¹⁵ Over forty years later, the United Nations is still struggling with issues of education. World conferences focusing on achieving Education for All (EFA) have been held at regular intervals since 1990. The 1990 EFA Conference established a framework for action, which recommended strategies by which countries could establish their own goals and targets for EFA. Of particular relevance to this study, is the first dimension listed:

Expansion of early childhood care and developmental activities, including family and community interventions, especially for poor, disadvantaged and disabled children.¹⁶

The EFA Conference in Dakar, Senegal in 2000 moved from self-set guidelines to a position of government obligations to be met by 2015.¹⁷ The first obligation supports the ideals of this project:

Expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children.

Pakistan has been a signatory to the agreements at every conference including the government obligations signed at the conference in 2000.

The Need for Quality ECE

All the facts, descriptions and figures discussed so far support a compelling argument for good quality ECE, and clearly show the need to address the weaknesses in providing for effective ECE programmes. This must be addressed if Pakistan wishes to increase the retention rate and success of children in schools and society. The facts provide the evidence for the need to create programmes such as those in the agenda of TRC, which recognise that the heart of improving access, retention, quality and the sustainability of education, lies within the teaching-learning process and the key participants - the teacher and the child.¹⁸

¹⁵ Unesco. (2001). World Declaration on Education for All. – Background Documents. Paris: UNESCO Education Webmaster. p. 1

¹⁶ *ibid*

¹⁷ World Education Forum; Dakar; 2000; The Dakar Framework for Education for All: Meeting our collective commitments. Geneva: Unesco.

¹⁸ Khan, Sughra Choudhry in collaboration with the Teachers' Resource Centre. (2004) From Practice to Policy: Making a Difference. Karachi. Funded by the Aga Khan Foundation (Pakistan), p. 9

Challenges and Issues

TRC was introduced to the High/Scope Curriculum in 1987, when a trainer who had worked at the High/Scope Research Foundation in Michigan, USA, conducted a workshop at TRC. Subsequently, TRC organised further workshops by a High/Scope certified trainer from London, UK. This curriculum was piloted successfully by TRC staff in the private sector, and the time had come to implement it in the public sector too. The High/Scope approach appealed for various reasons: a) it was a developmentally appropriate curriculum with convincing results gleaned through the longitudinal research conducted by the High/Scope Foundation; b) it gave children responsibility for their own learning, through the “plan-do-review” sequence; taking responsibility and planning realistically are much needed attitudes and skills, especially in the Pakistan context; and c) unlike the Montessori method, learning materials were not prescriptive, they were designed to meet the individual needs of the children, they were indigenous and original and therefore, low-cost.

Although TRC staff were convinced that various elements of the High/Scope curriculum were the need of the time for Pakistani society and the way forward for young children coming to school, they struggled with the following challenges/issues:

- What constitutes a culturally relevant curriculum for Pakistan? How might this be developed?
- Given that Pakistani society values the learning of reading and writing at an early age, how would parents (particularly from disadvantaged, illiterate backgrounds) be convinced that their children would come to school and learn through play?
- How would families adjust to children who have had opportunities to plan, think, take responsibility and above all, question, in a culture which is mainly authoritarian?
- How would teacher behaviour be changed to support a new curricular approach?
- How would head teachers adjust to the empowerment of teachers, who through the training would have learnt to reflect and question and gain in self confidence?
- How would awareness be raised amongst communities and education administrators to value ECE?
- At an administrative level, would finances be made available for learning resources; how would supervisors, used to being in authority work collaboratively and support teachers in implementing the new curriculum; how would we go about ‘educating’ policy makers on the importance of ECE, and the subject specialists in the curriculum wings of the ministry, about ECE?
- How would we address the issue of transition to Class 1 where children would have to revert/adjust to a formal/traditional approach to teaching and learning?
- How would we take this quality intensive programme to scale across Pakistan?

TRC has always designed need-based projects and programmes, in reaction to local, national and international issues. Therefore, in response to the identified need for additions and changes in ECD programmes in Pakistan, TRC developed an intervention plan designed to be a responsive and flexible programme that would tackle these challenges. A detailed narrative follows which describes the evolution of the programme.

The Intervention

TRC’s Early Childhood Education Project (ECEP) was designed to introduce ECE activities to public sector schools, and contribute to an improvement in the quality and delivery of ECE in selected urban and rural settings. The ECEP aimed to enhance the profile of ECE in Pakistan leading to a higher level of commitment within the educational system and government circles.

Activities within the ECEP involved introducing appropriate ECE practice in selected schools, through training workshops and classroom support; developing and piloting culturally appropriate curriculum guidelines for teachers; developing teaching and learning materials; carrying out action research on links between pre-primary and primary classes; developing monitoring tools to evaluate progress in teaching and learning; training future workshop leaders for greater outreach; and raising awareness through meetings and seminars on the importance of appropriate social and educational experiences for young children.

From 1998-2002, TRC worked with 45 primary schools in the public sector. The interventions were made in three phases; 17 schools in urban Karachi in Phase 1, another 21 schools in urban Karachi in Phase 2 and seven schools in rural Shikarpur in Phase 3. This research study is based on the findings from Phase 1 schools.

School Selection

Under Phase 1 of the ECEP, 10 government schools in District South, Ranchore Lines and 10 District Municipal Corporation schools (DMC) in District Central, Liaquatabad were initially identified with the government education department through a process of negotiation, starting from an appointment with the Primary Director of Education and then a meeting with DEOs, SDEOs and supervisors. Schools were selected against criteria, the most important being that of having a head teacher who was motivated enough to participate in a project that would involve innovation and change, taking risks, and a lot of hard work. In the case of DMC schools, the DEO visited TRC himself to request training for his teachers, which facilitated the whole process. Partners discussed expectations and indicators for success but there was no formal contract drawn, which TRC believed provided room for flexibility throughout the project. Within a couple of months, three government schools “dropped out” leaving TRC with 17 schools in Phase 1.

All of the schools participating in the TRC programme were located in low-income neighbourhoods. The children’s fathers reportedly worked as unskilled labourers, truck drivers, vendors, plumbers and mechanics. Their mothers either worked at home and/or as domestic servants. The linguistic and ethnic communities represented by the children had an impact on the nature and level of parental participation in the school; certain ethnic communities were perceived to have a stronger commitment to their children’s schooling than others. Thus the impact of the training programme was mediated by several external factors.

The DMC schools already had (traditional) kindergarten classes prior to the training programme, while the government schools set it up afterwards; a few teachers had participated in training programmes at TRC and other institutions, while others had not. Teachers selected for the training programme were considered to have the qualities and commitment to be able to use the TRC approach to teaching the *kachi* class. In one case, the Head selected a teacher because she was “young and unmarried, therefore regular and hard working.” Some other teachers were selected because they were “new and enthusiastic” or because of their “gentleness, tolerance and self-discipline.” According to a supervisor, three of the ten government schools initially selected were dropped from the final list because the heads, or teachers they had selected, were resistant to change.

Workshops and Progress

The introductory ECEP workshop was critical to ensure that all head teachers, supervisors and SDEOs (‘decision-makers’) developed an understanding of appropriate practice for very young children, understood the process of change and were familiar with the framework for the support to be provided and the logistics involved. Group activities ensured that the division between the DMC and government school administrators started to break down¹⁹. This first workshop was a good start with the decision-makers showing enthusiasm and commitment for the programme.

The content of early workshops for teachers included, an overview of ECE; active learning approaches; educational and language development using stories and poems; making and using games for development in numeracy ; making displays for visual stimulation; organising and managing the classroom. An annual plan was developed by dividing the year into manageable parts, using the topics in the ECE curriculum framework as a guide to planning activities and reflecting on what constitutes a good learning environment. Teachers compiled a booklet with a daily schedule of activities for the year and this was circulated to all project schools.

¹⁹ DMC and Government Schools are both funded through public funds. Through a quirk of history the DMC Schools were established. The funding is equal, but as smaller organisations they have more autonomy and flexibility. The process of change is easier as they are nested within a smaller bureaucracy. Parents may choose between sending their children to DMC or Government schools.

A workshop on assessment enabled teachers to reflect on practice, look at different ways to observe children and assess their progress and give meaningful feedback to both children and parents. This was for many teachers a major shift in thinking and practice; all but one teacher decided to do away with marks and grades. A monitoring format used by TRC was translated into Urdu, so that the heads and supervisors could use it for their classroom observation visits. It was also adapted slightly, so that teachers could use it as a self-assessment tool.

Between workshops, TRC staff visited schools on a regular basis to support teachers with the implementation of the ECE curriculum framework. Classroom support included assistance with organising the learning environment; taking a session with the children to demonstrate active learning approaches; observing and giving feedback to teachers about their interactions with children; mentoring them, exploring answers to their questions together and helping them reflect on their practice. Examples of teachers' questions are as follows:

- *How can I play the role of facilitator during gosha (learning corner) work?*
- *What can I say to the children besides a little about the topic of the week during discussion time?*
- *How does the daily timetable fit in with the weekly planner?*
- *How do I ask questions during the whole group review?²⁰*

With regard to the transition of children from the new child-centred *Kachi* class to Class I, TRC and the teachers were concerned about children moving from an active *Kachi* learning environment to one that was formal. This led to the idea of meeting the teachers from Class I. At a mini-workshop, TRC gave these Class I teachers an overview of developmentally appropriate practice in ECE which they appreciated, but also voiced their concerns about completing the 'syllabus' (i.e. the textbook) in one year. TRC offered support in planning for the year. Some teachers became quite excited and started to revise the textbooks, identifying chapter links and dividing the syllabus into monthly units. The project *Kachi* teachers were encouraged to invite Class 1 teachers in their respective schools, to visit the *Kachi* classroom and observe the children and the new methodology on an ongoing basis. In the long term, however, this approach was not successful; encouragement was not enough. Training and follow-up on learning by observation, collaboration and peer support, was required.

TRC was also building the capacity of teachers outside the classroom, through important events such as the ECE curriculum development meetings, preparation for and the actual participation in the 1999 National ECE Seminar '*From Awareness to Action*'. During the seminar, project teachers presented a role-play as well as the *Pehla Taleemi Basta*, (*Readiness Bag*) about which they answered questions. They participated in discussions in various groups that included members of the government from different levels and from different provinces, as well as participants from NGOs and private sector schools.

Follow-up for teachers was gradually reduced until it ended in February 2002, and handed over to supervisors who had been involved in workshops from the beginning in order to increase their skills. The supervisors discussed the classroom support format again and renewed their commitment to visit schools which they had not done due to other 'pressing' office responsibilities. Another internal support system was also set up encouraging teachers of DMC and the government, to visit each other in their schools, allowing the discussion of both positive and negative perceptions and observations.

Parent Meetings and Community Perceptions

Keeping in mind that parents play a crucial role in the education of their children, TRC supported project schools in conducting meetings with parents. The myth that parents are not interested and do not come to school meetings was soon shattered. In more than one school, there was not enough space in the classroom that had been set up to accommodate all the mothers, and some grandmothers, that turned up. They had observed that their children were now happy to come to school, and wanted to see for themselves what had changed. They were introduced to the new curriculum and to the concept of learning through play, by handling some of

²⁰ TRC-SIDP Annual Report, January-December 2000.

the manipulatives themselves. They were requested not to send their children to tuitions after school, that the learning would take place *in* school, and to send a simple clean and healthy snack from home, rather than giving their children money to buy from the vendor outside. Parents' feedback revealed that they had learned so much at the meeting; they felt grateful for having been invited and involved. Parents began questioning why this approach to education had not been introduced when their older children had started school.

During subsequent meetings, a significant number of parents recounted that their children were waking up early and were eager to be dressed and ready for school. Further, they believed that their children had learned social skills, were more confident and were expressing themselves more clearly.

Research and Evaluation

The staff of TRC was also committed to including a research component in this project to:

- evaluate the impact of the project on the teachers, children and community
- identify phenomena in this project that may apply to other work with young children
- analyse in what ways the specific curriculum model influences ECD in Pakistan

To this end, eight research questions were generated for which data was to be collected.

Questions and Associated Hypotheses

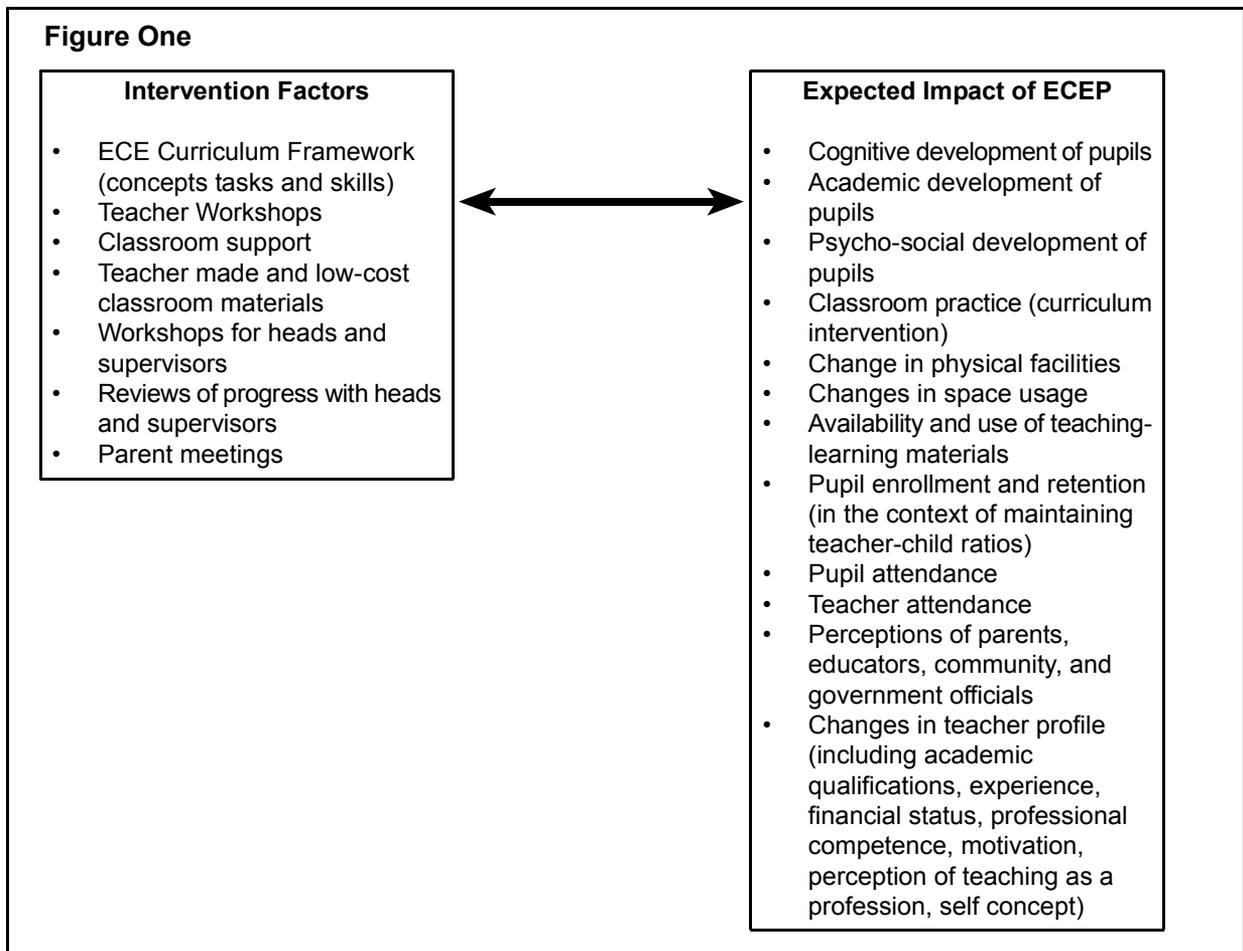
In parallel with the design of the intervention, the TRC team developed a set of research questions that the study is designed to answer. They are:

1. Will the ECE intervention in selected public sector schools result in improved psycho-social development of pupils?
2. Will the ECE intervention in selected public sector schools result in improved cognitive development of pupils?
3. Will the ECE intervention in selected public sector schools result in appropriate curriculum implementation?
4. Will the changes in the programmes result in improved physical facilities (space, light, ventilation and furniture, within existing financial and administrative constraint) for the pre-primary class?
5. Will the ECE intervention in selected public sector schools result in a change in teacher profile?
6. Will the changes in the programmes result in higher pupil enrolment and retention, while maintaining an adequate teacher-pupil ratio?
7. Will the changes in the programmes, result in higher pupil attendance, in terms of regularity and punctuality?
8. Will the changes in the programmes, result in heightened awareness of the importance of ECE, and a change in the perception of educators, communities, parents and government towards ECE?

Research Design

The intervention was designed to facilitate a dynamic interaction between TRC staff, the teachers, the children (through the teachers), the families, the community and eventually the educational system. The data collection methods were designed to capture this vibrant interaction in the framework of an action research model²¹. In an action research model, the researcher has flexibility to respond to unexpected events and discoveries within the project. A predetermined approach to data collection was developed that would track the changes in the intervention and more importantly the impact of the intervention over time. The project was designed as a case study²². The focus of the case was the *Kachi* classes in the ECEP, but included their school, school staff, families and the community.

The collected data was an assortment of qualitative and quantitative data, but the analysis was completed within the framework of mixed method research²³. Throughout the study, the aim was to capture the experience of the children and teachers and relate their experiences to any measurable changes in behaviour, approaches to learning, approaches to teaching and overall development. The data collection produced non-numerical data from qualitative narrative and observations. Numerical data collected from tests, local records and government reports was used to enhance the qualitative data. Figure One illustrates the measures and intervention factors.



²¹ Bogdan, R. C., and Bilken, S.K. (1992). *Qualitative Research for Education: An Introduction to Theory and Methods*. Boston, MA: Allyn and Bacon.

²² Creswell, J. (2003). *Research design: Qualitative, quantitative, and mixed method approaches*. Thousand Oakes: Sage Publications.

²³ Vulliamy, G, Webb, R. (1992). *Teacher research and special educational needs*. London:Routledge

Data Collection Strategies

Given the objective of *capturing the experience of the children and teachers and relating their experiences to any measurable changes in behaviour, approaches to learning, approaches to teaching and overall development*, it was critical to design a set of measures that would be valid and reliable and that would produce the necessary detail about individuals, as well as capture the larger picture. In addition, with the commitment to a flexible and responsive intervention, and the challenge of change in any educational setting, it was important to have a variety of measures that would portray the complexity of the work.

The *Kachis* in the project were a part of a traditional and valued education system. The nature of the proposed changes was radical, taking the teachers and children into uncharted territory. It was, therefore, very important to have measures that described the context (before intervention) and that depicted changes in a manner that made sense in the larger context of the education system in Sindh and in Pakistan. This led to the decision to use researcher-designed measures that would be standardized measures and carry contextual and cultural biases that could not be accounted for in the research design. This approach did create a risk of poor reliability, which was compensated for in two ways. Firstly, the team gathering the data was trained very carefully to ensure that data was collected in a uniform manner. And secondly, the parallel collection of qualitative data provided a source of data that was used to assure that there was consistency across data sources.

Data Collection Instruments

Four data collection instruments were designed to provide information of changes that were taking place as a result of the ECEP intervention. A brief description of each follows:

- Children's Learning Environment Format (CLEF)

A multi-purpose instrument, the CLEF was used for:

- monitoring progress on the appropriateness of the learning environment, the quality of the teaching-learning process and children's learning. Heads and Supervisors used a translated version and teachers also used it for self assessment.
- diagnosing teacher training needs.
- assessing impact of the ECEP. A baseline survey was carried out in 1998 and then annual follow-up visits were carried out. Feedback was given to teachers after each visit.

The information was gathered through site visits, classroom observations, teacher interviews, document reviews and photographs.

- Enrolment and Retention Format (ERF)

The ERF was used to record pupil enrolment, dropout and retention rates throughout the primary grades, in order to assess the impact, if any, of participation in the *Kachi* class. The ERF also looked at teacher attendance patterns to assess any post training changes. This data was collected on site through a thorough examination of registers, records, documents and interviews where required.

- Teacher Profile Format (TPF)

The TPF was designed to examine changes in teacher's attitudes towards children and the teaching-learning process and perceptions of themselves as teachers. The TPF also recorded academic and professional qualifications. The data was gathered through interviews done on site.

- Tracking Learning Outcomes (TLO)

The TLO was administered to a cohort of children tracked from *Kachi* to Class 3. It aimed to learn the extent to which participation in the *Kachi* had facilitated children's psycho-social and cognitive development. A series of graded cognitive tasks and psycho-social activities were designed for the purpose.

Data Collection Sites

The sites were chosen from a combination of Government and DMC schools. All are publicly funded, but the DMC schools are administered by a smaller local body. All the schools were located in urban areas, with a low socio-economic status. All were considered by school officials to be schools serving children with high needs. Five Experimental Schools (ES) and five Control Schools (CS) were identified; there were three from the government and two from the DMC in each group. The ES were selected keeping in view their progress in establishing developmentally appropriate practice, comprising of schools that were at different stages on the "success" scale. The CS were selected from the neighbourhood of ES, in an attempt to keep socio-economic variables constant as far as possible. At an average, there were 35 children in each *Kachi* Class. Data for the CLEF and the ERF was collected from all the 17 Phase 1 schools. Data for the TLO and TPF was collected from the 10 ES and CS only. A total of 27 teachers were involved in the research.

Data analysis includes an ethnographic analysis²⁴ of the teacher interviews and case observations and statistical analysis of the numerically-based measures. An overview of the classes before and after intervention is used to 'set the scene' for the report of the results of the data analysis. Following the overview, each research question (from page 13) will be answered, presenting both qualitative and quantitative results.

Overview of the *Kachi* Classes Before the Intervention

Before the intervention, the existing *Kachi* classes in the DMC schools were replications of the classes for older children. Small rooms had a large number of children. The children sat in rows, in desks that were too large for their small bodies. The rooms had very little decoration, possibly a flag or an historical picture. Children's work was not displayed on the walls. The classes were silent, as stillness was expected and disruptions were not accepted. The interactions were only between the teacher and individual children as they answered questions with rote responses. Child to child interaction only occurred outside of the classroom. The only learning resources were textbooks. There was no interaction with any learning materials.

Overview of the *Kachi* Classes After the Intervention

The layout of the classroom and existence of other materials (children's work, teacher-made and commercially produced charts, play materials, stationery etc.) were the most noticeable physical changes. Children in several classrooms were still seated in rows and columns, at desks or on the floor. Although this arrangement was not totally abandoned, the furniture in most of the project classrooms was rearranged. In one of them chairs were placed around three round tables; in others, tables and chairs were arranged along the walls, leaving space in between for movement. Display boards, cupboards, shelves and a large mat had been added to some classrooms. In one class, however, desks designed for older children were in use, and the kindergarteners had to stand to reach the notebooks placed on them. Commercially produced charts were on display in almost every class. Teacher made materials such as mobiles, clocks, and flash cards, as well as children's work were displayed on the walls or hung from a string. A home-made book for letter recognition had been made by one teacher. In most, but not all cases, the displays were placed at the children's eye level. Evidence of attempts to organize learning centres or *goshas* was found in most of the classrooms. In a few cases the play materials were laid out, while in others the teachers seemed to have the materials, but were not using them at the time the visits were made.

Research Questions and Findings

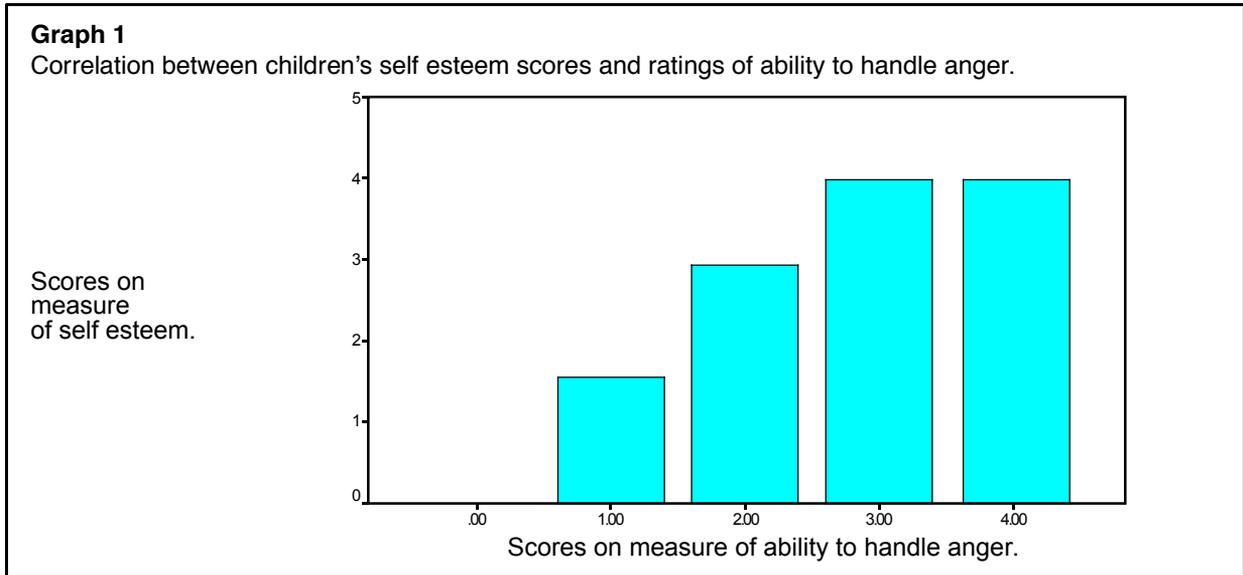
Research Question: Will the ECE intervention in selected public sector schools result in improved psycho-social development of pupils?

The intervention resulted in improved psycho-social development for the intervention group. Of particular note were an improvement in basic life skills, self esteem and social skills.

The teachers, heads, parents and researchers observed a marked change in the psycho-social development of the children. Of importance was the observed interaction between children and adults and amongst the children. In addition, it was noted that the basic social self-help skills of the children in areas such as washing, dressing and eating also improved. The children were now more alert participants in the activities of the classes, such as answering questions, reciting, and making choices. The children were frequently observed working independently, in pairs, small groups and alone.

²⁴ Ethnographic analysis is a process by which data in narrative form is broken down into themes. By identifying recurring themes, it is possible to draw conclusions from narrative data. It is a very powerful tool when used correctly.

The scores on the CLEF supported the reports of the various observers. Analysis of the CLEF data demonstrates a strong connection between self esteem and social skills such as the ability to handle anger appropriately. Pearson Product-Moment Correlations were used to measure the significance of the relationship between the CLEF measure of self esteem and the ability to express anger. The relationship was significant at a .011 level. Analysis indicates that as the children’s self esteem becomes stronger, so does their ability to express anger appropriately.



Graph 1 illustrates the relationship between the measured self esteem of the children and the measure of their ability to handle anger. The measure of self esteem scores children on a scale of 0 to 5. A result of 0 indicates a very low self esteem and a result of 5 indicates a very high self esteem. The measure of ability to control anger scores children on a scale of .00 to 4.00. A score of .00 indicates an inability to handle anger, whereas a score of 4.00 indicates a strong ability in handling anger. The graph demonstrates that the majority of children had strong scores on both measures. It also shows that a good self esteem is strongly related to an effective ability to handle anger. For example, a child with a score of 4 in self esteem will have a score of 3.00 or 4.00 in handling anger. The implication for the ECEP is that the building of children’s self esteem through positive feedback and the full participation of the children in the educational process, has positive effects in other realms such as self control of anger.

The ability to express anger appropriately is measured on a scale of .00 to 3.00, with 0.00 indicating an inability to express anger appropriately and 3.00 indicating great skill in appropriate expression of anger. The level of initiating cooperative play is measured on a scale of .00 to 5.00, with 0.00 indicating no initiation of cooperative play and 5.00, a high frequency of initiating cooperative play. Figure 1 lists the average scores of the Experimental Group and Control Group on the two measures.

Figure 1
Average scores on ability to express anger and level of initiating cooperative play.

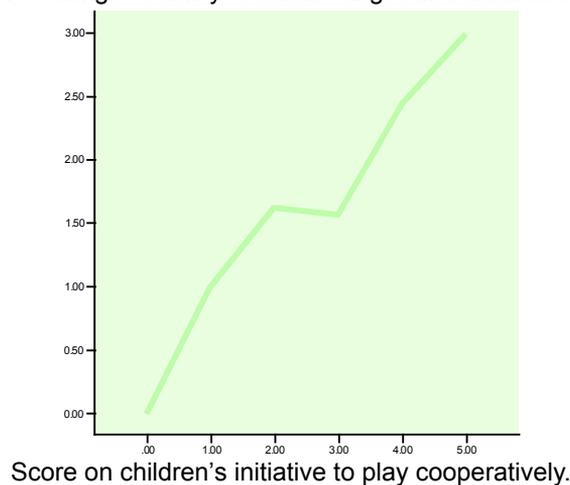
Group	Ability to Express Anger Appropriately <i>f</i> \bar{x}	Skill in Initiating Cooperative Play <i>f</i> \bar{x}
Experimental	2.75	4.75
Control	1.25	1.75

It is clear that the average or mean scores ($f\chi$) in both skill areas are higher for the Experimental Group. It is useful to go beyond this simple difference and to explore if there is a relationship between the two skill areas i.e. if a child is skilled in expressing anger appropriately, will they also be skilled in initiating cooperative play. The significance of the relationship between children's ability to express anger appropriately and the likelihood to engage in cooperative play was at a .001 level using the Pearson Product-Moment Correlation. Graph 2 illustrates this strong positive relationship, showing that the ability to handle anger and engagement in cooperative play increase at the same rate. This is one of the highest levels of significance achievable on the statistical test. Graph 2 illustrates the relationship between the measure of the children's ability to express anger appropriately and their ability to initiate cooperative play. The graph indicates that as children's ability in expressing anger appropriately increases, so does their frequency of initiating cooperative play. This is another indication of how the aspects of the programme focusing on anger management interact with the encouragement of strong social play skills. The line on the graph maps the scores on the two test scores against each other. The line is close to being a straight line at a 45° angle. This indicates a strong relationship between the two skill areas, implying that helping children learn to play cooperatively also helps them express anger appropriately and vice versa.

Graph 2

Correlation between children's ratings of ability to handle anger and children's self initiated cooperative play.

Score on a measure of expressing anger appropriately.



As the programme had an impact on anger management, self esteem and the ability to play cooperatively, this appears to have generalised to other social skills. The interaction between play ability, self esteem and anger management are interesting as they all indicate the children's level of contentment in the *Kachi* programme.

Parents report that children look forward to school, not wanting to miss any of the fun. To quote a mother" *Ab to bachay chutti ka naam nahin laytey, zid kartey hain kay hamain school jaana hai. Pehlay ham zabardasti bhejtey they, ab shouq hai.*"

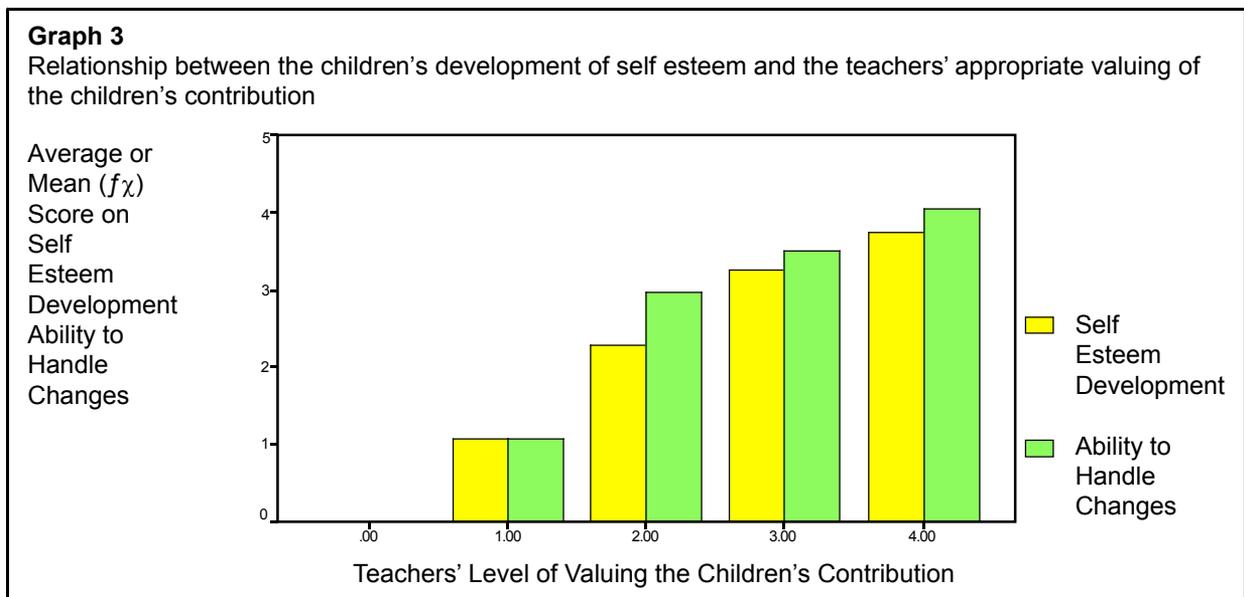
(Translation: Children don't even think of staying home anymore. We used to force them to attend school each day but now they are so eager they insist on going)²⁵.

The teachers in the intervention group were given specific training in handling their own anger and in helping children handle anger appropriately, build their self esteem and in playing cooperatively. The strong correlation between these variables indicates that there was successful intercession in this area. Teachers' attitude towards, and relationship with children changed significantly. As one teacher observed, '*Maar peet abb khatm ho gae hai*' (Translation: Hitting children has now stopped).

²⁵ TRC-SIDP Annual Report, January-December 1999

Children from other classes were observed regularly peeping into the *Kachi* class to look at what was going on. A teacher said that the *Kachi* children's reluctance to return to class after the break was now replaced by a new keenness. Another teacher commented on the high level of self-discipline and responsibility acquired by the children in her class, in a few short weeks. Above all, the confidence, spontaneity, and enthusiasm displayed by the children in the classrooms visited by the researcher were a testament to the success of the programme. Some children spontaneously started singing nursery rhymes, others moved around talking to or helping each other and most responded with great enthusiasm to their teacher's questions.

Statistical analysis of the teachers' scores on the level of valuing the children's behaviour showed that the majority of the teachers scored very well with an average or mean ($f\chi$) of 3 out of four. Similarly it was found that the children had high self esteem scores with an average of 3.75 out of five and high scores on ability to handle changes with an average or mean ($f\chi$) of 3.5 out of 5. Graph 3 demonstrates the close relationship between the children's development of self esteem and their ability to handle change and the teachers' appropriate valuing of the children's contribution. The relationship between the children's self esteem and the teachers' valuing of the pupils' contribution is significant at a .01 level. The relationship between children's ability to handle change and the teachers' valuing of their work, shows an almost identical correlation (.01).



Graph 3 illustrates the impact of teacher behaviour on both self esteem development and the children's ability to handle changes or flexibility. As the teachers' valuing of children increased from 0 to 4 so did the children's self esteem and flexibility increase from 0 to 5. This demonstrates the strong impact of the ways in which teachers value children's contributions, on the children's development of self esteem and flexibility.

The results in the area of psycho-social development are most striking. Children's ease in interaction with both adults and other children was radically changed. Changes were not only evident in positive social interactions, but also in the children's skills in negative situations. Finally, the children were found to have significantly improved self esteem.

Research Question: Will the ECE intervention in selected public sector schools result in improved cognitive development of pupils?

The intervention resulted in improved cognitive development of the children, particularly in the areas of processing new knowledge, basic literacy skills and problem solving skills. The researchers observed that the interactions between teachers and children were generally characterized by enthusiasm and confidence. For example, a teacher asked the children to vote for whether or not they wanted to have a story read to them. She then mimed parts of the story and the children interjected their responses.

Observations by the teachers, school administrators and TRC staff, noted major differences in the behaviour of the children that indicated enhanced cognitive development. A Head reported that children who had now gone on to Class 1 guide their teacher by telling her, "Do it this way, this was how we did it last year, so do it that way."

The observations are supported by the statistical analysis of the TLO results. Data supports the teacher's views that there is a change in the learning of the children. The average or mean (f_{χ}) score out of 100 for the experimental group is 75, whereas the mean score (f_{χ}) for the control group is 69. This is illustrated simply in Graph 4, where the scores of the children in the experimental classes are represented by the left bar and the scores of the children in the control classes are represented by the right hand bar.



In Graph 4 we simply compared average or mean scores visually. Although it appears that there is a considerable difference between the two sets of scores, further statistical analysis was done to measure the exact amount of difference between the scores. The scores were analyzed using a t-test. A t-test measures significance of difference between two sets of scores. It uses each individual's score in the calculation and tells us if the difference is a true difference. We used this because averages can be misleading. The t-test analysing the difference between the experimental group and control group scores shows us that the difference is very significant. The t-test found a difference which was significant at a .01 level. This means that there is a 99.09% chance of the same results happening in similar circumstances. In other words, the effectiveness of the intervention as measured by the TLO is very high.

The TLO measures a number of different academic and cognitive skills. The researchers wanted to identify which curriculum areas contributed to the higher scores of the children in the intervention group. A statistical test called analysis of variance was used. It helps break down the scores into curriculum areas and identifies the areas that created the overall or average difference in the TLO scores. It shows that children in the intervention group had significantly higher scores in the subtests of conversation, vocabulary, comprehension, recognition of own name in Urdu print, printing the alphabet in English & in Urdu²⁶. This means that the difference in scores reported in Graph 4 can be accounted for by looking at scores in conversation, vocabulary, comprehension, recognition of own name in Urdu, printing the alphabet in English & in Urdu. This analysis indicates that these were the most effective aspects of the intervention programme.

Further analysis found that there is a correlation between scores on basic comprehension tasks and vocabulary, matching, name in English, matching words in Urdu, and alphabet in English²⁷. Thus a general strength in cognition as measured by comprehension is related to particular components of cognition that were stressed in the intervention.

In summary, both the quantitative and qualitative data indicate that children in the intervention group showed enhanced cognitive skills. There is evidence that they have superior skills in processing new knowledge, basic literacy skills and problem solving skills.

Research Question: Will the ECE intervention in selected public schools result in appropriate curriculum implementation?

Researchers observed momentous changes in the nature of activities undertaken by the children in all but one of the classrooms. Spontaneous singing of nursery rhymes, passing around of flash cards to practice letter-recognition, listening to stories read out by the teacher are all examples of activities not typically seen in public sector primary schools. Free play with toys was evident in several classrooms. More often, children worked individually on teacher assigned tasks, such as drawing and colouring, but unlike typical classrooms they were seated in groups, and in most cases were permitted to talk to each other and move around. Teachers used charts and flash cards to point out objects and their properties, as well as letters and numbers. Children responded to teachers' questions individually or chorally, with much enthusiasm. In addition to the above, teachers continued to ask children to copy what they had written or drawn on the blackboard and to chorally echo their words, several times.

In all but two of the experimental classes, the children's work was displayed. In some classes only the 'best' work was on display, but in most it was the work of all the children. Most teachers made an effort to look at children's work, although in a few instances, when children brought their work to show the teacher, there was no acknowledgment or appreciation received. Many asked open-ended questions about the work which encouraged children to think about their work, rather than answering rote questions²⁸ or accepting unbridled praise²⁹. However, the degree to which teachers allowed children freedom in working in a *gosha* of their own choice differed. Teachers tended to rely more on teacher driven activities, albeit the changes they had incorporated in their practice, made the activities more engaging for the children. They continued to grapple with pedagogical and logistical issues, and the support of colleagues and the Head played a significant part in their efforts to make "the TRC way" their own way of teaching.

²⁶ An analysis of variance showed the following significance levels.

- conversation .826
- vocabulary .736
- comprehension .516
- understanding of own name in Urdu .813
- printing in English .967
- alphabet in Urdu .518.

²⁷ Pearson Product Moment Correlation tests found relationships at confidence levels of .01 and .05 between comprehension and vocabulary, comprehension and matching, comprehension and name in English, comprehension and matching words in Urdu, and comprehension and alphabet in English.

²⁸ An example of a rote answer would be: "I drew a picture of lion. The words under the picture say this is a lion."

²⁹ An example of unbridled praise would be: "That is a lovely picture, you did well."

However, teachers' need to 'control' the children by quietening them, making them sit 'properly' and taking away materials they were playing with, was often evident. The teachers' response to demands for major changes in their ways of working was often evident. As the teachers developed new approaches, it is not surprising that they would revert to their familiar approaches for classroom management, when they believed that the class was getting 'out of control.' The researchers needed to remember that this is a part of the culture. The society values sitting properly and not being too noisy and out of control.

Observations of the teachers by researchers indicated there were variations in the use of the curriculum framework and approaches in subject areas where teachers' levels of knowledge (and confidence) were lower. For example, their style tended to get more didactic in English lessons. This is a pattern that is seen in pre-service and in-service teacher education. When faced with unfamiliar or new challenges, there is a tendency for teachers to either revert to former ways of working or to the ways they were taught³⁰.

All but one of the schools in the intervention group made radical changes in their *Kachis*' curriculum. Over the period of the intervention, the new approach to teaching young children was implemented quite successfully. One school faced external problems that prevented full implementation of the curriculum, but in the remaining schools the model was fully embraced.

The CLEF data indicates that there was Appropriate Curriculum Implementation, particularly in teaching practice as a result of the intervention with teachers in the intervention group. The average or mean ($f\chi$) scores for teachers in the experimental group for use of developmentally appropriate activities was 2.5 out of 3. The average or mean ($f\chi$) scores for teachers in the experimental group for use of developmentally appropriate activities was 3 out of 4.

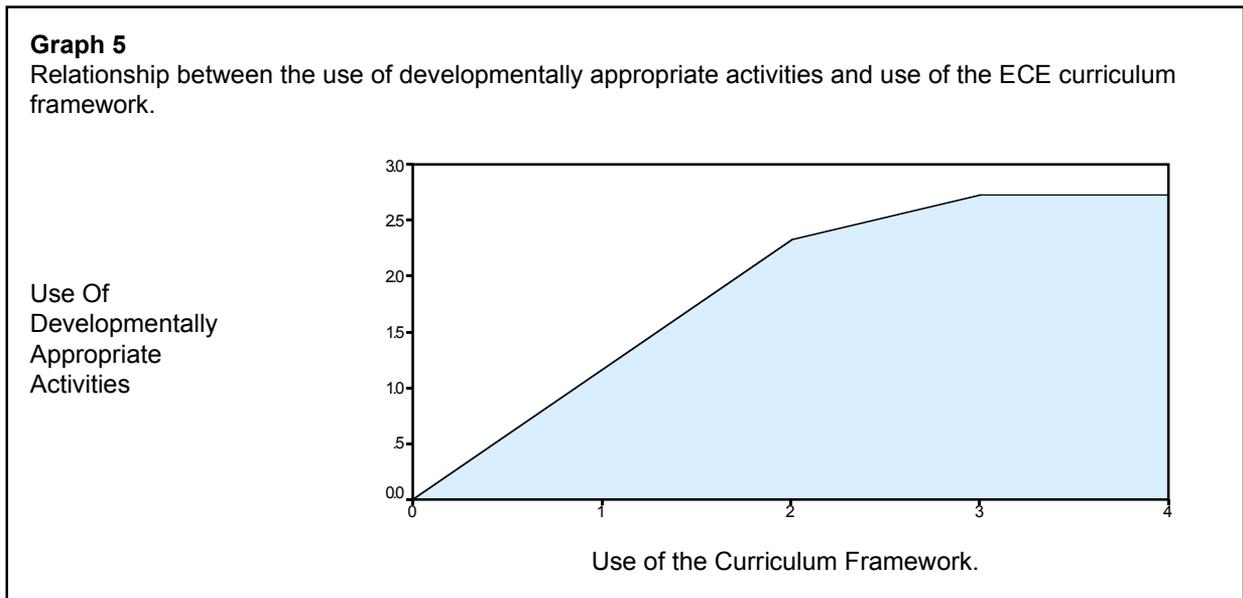
Figure 2

Average scores on use of developmentally appropriate activities and on use of the curriculum framework.

	Experimental Group Teachers $f\chi$
Use Of Developmentally Appropriate Activities	2.5
Use Of The Curriculum Framework.	3

³⁰ Flores, M.A. (2004). The impact of school culture and leadership on new teachers' learning in the workplace. *International Leadership in Education*. 7,4. 297-318.

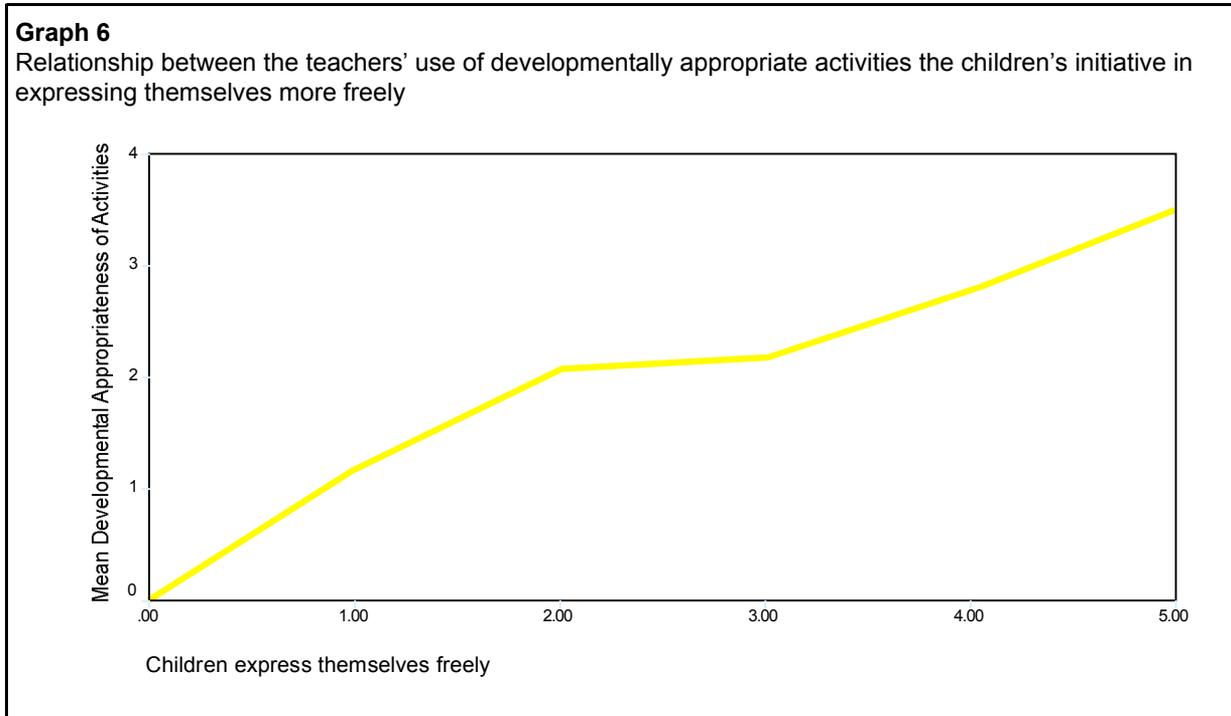
The relationship between the measure of the use of developmentally appropriate activities and use of the ECE curriculum framework was found to be significant at a .01 level. A test of the correlation between use of the ECE framework and use of developmentally appropriate activities³¹ was used. Graph 5 shows the relationship between the use of developmentally appropriate activities and use of the ECE curriculum framework. As the teachers' scores on the use of developmentally appropriate activities increase (left side of the graph), so do their scores on the use of the curriculum framework (the bottom of the graph). This provides evidence that the teachers were not only establishing the curriculum framework, but that they also understood it. It is easy for teachers to use new approaches in a formulaic manner without understanding their purpose. The correlation is important as it indicates the degree to which the teachers were moving beyond changing the format of their programme to providing activities that were designed to reflect the needs of the children. This indicates a deep understanding of the curriculum model.



The researchers also wanted to know if the change in the teachers' behaviour had an impact on the children. Observations indicated that this was the case, and it is also supported by statistical analysis. The relationship between developmentally effective teaching and the children's initiative in expressing themselves more freely (a goal of the curriculum)³² was analyzed. This relationship was significant at a .01 level, which means that there is a 99.9% chance of the same results occurring again with a similar group. This relationship is demonstrated in Graph 6 in which it can be seen that as the teachers' use of developmentally appropriate activities increased (left side of the graph), the children's initiative in expressing themselves more freely also increased (bottom of the graph). This is another indicator of the teachers' use of developmentally appropriate activities to meet the needs of the children in their *Kachis*.

³¹ A Pearson Product Moment Correlation was used to analyze the relationship. The correlation was found to be significant at the .01 level. (1 tailed)

³² Graphs 5 and 6 are visual representations of Pearson Product Moment Correlations significant at a .01 level.



Research Question: Will the changes in the programmes result in improved physical facilities (space, light, ventilation and furniture within existing financial and administrative constraints) for the pre-primary class?

The classrooms were transformed. In many cases, they were moved to more suitable locations within the schools. One such school was the DMC's, Nawab Siddique Ali Khan School. The head assigned the largest classroom, a "good" teacher and a helper to the *Kachi* class. Prior to the project, the *Kachi* class was not valued and often ended up with the least experienced teacher³³. All the classes were enhanced through teacher and child displays. Teacher produced materials became more evident, and in some classes these had been produced on the basis of children's interests. Heads mobilised resources through parents, used their previously un-touched development funds and solicited assistance from their SMCs in order to improve the physical facilities. They took great pride in their *Kachi* classes.

Evidence of change was observed in the physical layout of the classrooms, availability and use of learning materials, interactions between teachers and children, opinions of school personnel and attitudes of the children. The practice of setting up and using *goshas* (learning corners) had become an integral part of the teachers' regular instructional practice.

³³ TRC-SIDP Annual Report, January-December 1998

Research Question: Will the ECE intervention in selected public sector schools result in a change in teacher profile?

The teacher profile data illustrated that the teachers in the intervention group came from diverse backgrounds. There was significant qualitative change in the profile over the time of the intervention, although there was no measurable change in the academic qualifications of the teachers. The major change was in the teachers' self perception as professionals. Prior to the ECEP, the teachers saw themselves as being at the bottom of the teaching hierarchy. As their skills changed and improved and as administrators recognized the immense success of their work, the teachers began to take great pride in their work; they worked within an understanding of the curriculum framework not just within a set of prescribed activities. Their confidence in their own teaching improved immensely, as they took significant initiative in developing the curriculum in their classes. Their attitudes towards the children also changed radically. In the words of the teachers:

"What is the purpose of *gosha* work? There are lots of objectives that are met through *gosha* work. Cognitive development, vocabulary extension, co-operation ... all these things we can fulfil through *gosha* work. Labelling things in *goshas* is very important; we hadn't paid attention to this before, but now we do."

"If we give children the proper education at this early childhood stage, then definitely there will be a change in the level of skills they develop."

"On numerous occasions because of illness or tension I would adopt a negative attitude, I now understand that as a teacher I have a big responsibility but as a *Kachi* teacher this responsibility has doubled and I will try to implement this positively."

Sajida Abdullah, GGPS New Kumharwara No. 1 said, "the Class 1 teachers are now vying for the *Kachi* group to come to their section. Last year they felt that all we do in class is play, but now they see the value of what we do." Mehnaz Ameer Ali, GGPS Hashim Ghanchi, shared, "teachers of the afternoon shift have become interested in our approach and want to learn from us."³⁴

Researchers interviewed Rehana Naz of Shibli Baldia Primary School, as part of the TPF data collection schedule. A translated extract follows:

Children have started taking more interest due to TRC's teaching methods - the things that children didn't know before they now do know. Admissions have increased compared to before and children come to school happily and aren't scared anymore. Those parents who weren't familiar with these teaching methods, took their children out of this class, but when they found out from other parents about the advantages of this teaching method, they re-admitted their children in the *Kachi* class. The children's parents are very happy with this new approach.

Children's thinking has changed - they can now name several objects for one letter of the alphabet - for example *alif* for *Allah*, *anaar*, *ammi*, *aboo* etc. Children are very happy with the class environment and work independently. There is a daily routine for our work and children are familiar with it. TRC's planner has been very useful for us - now with low-cost material teaching is better.

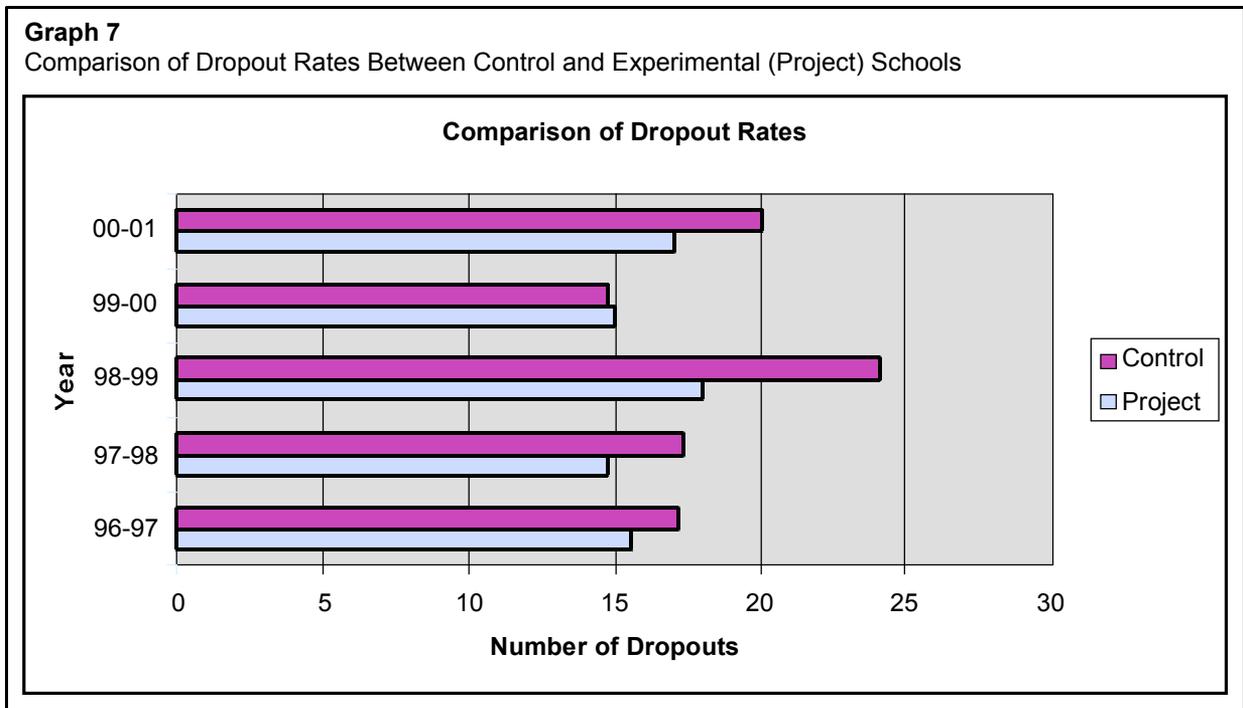
Children and parents have begun to take a lot of interest - parents seem to be quite satisfied with their children's work and learning. There has been a change in the way children are writing. Parents are happy with the work children are doing in their exercise books and in this way are appreciating their learning. Children get very happy when going into the math *gosha*. In the math *gosha* low-cost material has increased children's confidence, and they can recognise numerals better - the use of flash cards, counting beads, writing figures in the air and sand, the use of stones and buttons. I inform the parents about children's progress and call the parents every two months to show them their children's portfolio and to give suggestions on how they can help their child. The parents co-operate and are happy and satisfied with their child's progress.

³⁴ TRC-SIDP Annual Report, January-December 2001

Research Questions: Will the changes in the programmes result in higher pupil enrolment and retention, while maintaining an adequate teacher-pupil ratio? Will the changes in the programmes, result in higher pupil attendance, in terms of regularity and punctuality?

The ERF data indicates that there is Increased Enrolment and Retention as a result of the intervention for the children in the intervention group. An analysis of variance in drop-out rates as a function of the intervention, was completed with a .387 level of significance. This indicates that children in the intervention group were less likely to drop out of school before class 5, but it is not strong enough to say conclusively that the intervention decreased drop out levels. It is difficult to track children over five years as these data are complicated by family moves to different school districts.

Graph 7 illustrates the differences in drop-out rates between the experimental and control schools. As there are so many factors that lead to children dropping out of school and because the researchers did not have access to data that listed the factors, it was impossible to do any deep statistical analysis of the drop-out rates. Nevertheless, it is interesting that in every year of the project, the drop-out rate is higher in the control group schools.



There are also indications of trends in improved attendance and enrolment, but the data is not significant. It has to be kept in mind that in public sector schools, where substitute teachers may not be available, pupil attendance is heavily dependent on teacher attendance. In addition to this, the Government of Sindh's employment/leave rules are not conducive to encouraging regular teacher attendance.

Research Question: Will the changes in the programmes, result in heightened awareness of the importance of ECE, and a change in the perception of educators, communities, parents and government towards ECE?

Heightened awareness of the importance of ECE among public sector school heads, teachers, parents, *Nazims* (mayors) and town councillors is evidenced by changes in attitudes and practice. The formerly ignored age group became a priority for schools. Heads began helping teachers with preparation of learning materials. They also sent their "best" teacher to substitute, if the *Kachi* teacher was absent. To address the issue of space, an

ECE Centre has been established where three DMC *Kachi* classes have been accommodated; the DMC administration had to vacate an office to do this. At parent meetings, mothers unanimously favoured the ECE approach, because of the positive attitudes and behaviour they had observed in their children.

During routine visits to schools, Nazims were surprised and impressed on the change they observed in children and their teachers. The Nazim from Jamshed Town said, "I cannot believe that this is a government school. Such results can be seen only when people work hard."

"It was our dream to see confidence in our teachers and children. This has come true because of the services of TRC We would like to provide the same style of teaching even in higher classes." Deputy Education Officer, DMC, Liaqatabad.

The head of a DMC school, GPS Major Khalid Sultan Shaheed, said, "the Nazim of my area gave special attention to the *Kachi* class. He was inspired by the children's confidence and quick responses to questions."

Enthusiasm for what was referred to by some teachers as "the TRC way" was evident in the attitudes of parents, school personnel, and the children themselves. Parents were reportedly happy to enrol their young children in schools where a *Kachi* class had been introduced, or the reputation of the school had improved as a result of the training programme. Parents see a difference in their children: "My child now wants to go to school even if he is not feeling well. He enjoys school so much now."

The rapid enrolment in new *Kachi* classes, or increase in the number of children in the *Kachi* class in schools where they already existed, supported this claim. One head noted, "The number of children seeking admission has increased; I now have three sections of *Kachi*. The behaviour and approach of parents has also changed for the better. A member of the community seeing our progress has promised us a computer."

The *massi* in one school had noticed that "The children now 'know' what they learn, they do PT, they make things and do new things." The Head of a school proudly claimed that other classes in her school were "just like the *Kachi* class." She showed the researcher the next-door Class 1 room, which had displays similar to the *Kachi* class. Another Head, who initially discouraged the *Kachi* teacher from 'decorating' her classroom, became more supportive afterwards, and asked the next-door teacher to simply shut her door if the *Kachi* class became noisy. Yet another Head said she wished she herself had participated in the training programme.

Almost all teachers seemed to enjoy teaching in "the TRC way." Speaking of the training programme, a PTC trained teacher said, "This was real knowledge. They didn't force us. They didn't say 'you have to do it this way.' Also, they started at our level; they showed us things we can do in government schools. This way [the children] learn with their whole mind and remember it. [It is] much easier for the teacher." Other teachers said they enjoyed making and using the learning materials, and felt rewarded by the children's enthusiasm and learning.

Summary – Data Analysis

The results of this study give us some very important information. First, it demonstrates that methods that have been successful in other parts of the world can be adapted and then transformed to fit the Pakistani culture. It is well known that 'constructivist' methods work well with children in Western cultures, but there are fewer examples of its effective use in other cultures. This ECE project shows how major changes can be made in the western approach and yet still maintain the key theoretical foundations of that approach.

Secondly, the exceptionally positive change in the teachers' conduct and beliefs, indicate that the model of professional development used in the project is an effective way to prepare Pakistani teachers for new ways of working with children.

In section 4, the implications of these findings are discussed in detail.

ECE in Pakistan

ECE in Pakistan is generally taken to refer to the pre-primary/reception or *kachi* class, although there are some projects that work with the age range of 0-3 that are beginning to widen the understanding of ECE. It has traditionally been a neglected area in education, although some classes have been present since before independence in 1947³⁵. Government records³⁶ state that in 2003/2004 the participation rate for *Kachi* students was 52%. Many children under the age of 4 accompany their siblings to school. The same report notes that this group of “unadmitted students” brings the participation rate up to 70%³⁷. The private sector has been much more effective in establishing pre-schools, nurseries, kindergartens and Montessori schools. EFA data from 1998 showed that only 734,455 out of the 8.6 million children between the ages of 3-5 years are enrolled in schools, giving an enrolment rate of only 8%³⁸. Progress has been made in the last 6 years. Data also show that the highest drop out rate occurs by or during class 2.

Although the EFA monitoring report paints a very negative view of political action and financing ECE in Pakistan, there are a number of initiatives and factors that are encouraging. Literacy rates in Pakistan have increased significantly since Independence. Work is ongoing towards meeting EFA objectives on schedule, with a National Plan of Action for achieving the goals. In addition, civil society and the public sector are showing more interest in the development and education of young children. The “improved style” of ECE is described in the Unesco report as a marker of progress towards the development of effective models.

However, under the improved style, ECE is being provided, at nominal fees, in a limited number of (less than 1% of all public primary) schools – in almost 100 rural public schools by the Federal Directorate of Education (FDE) in Islamabad Capital Territory (ICT), and in another 65 schools with technical and financial assistance from Children’s Resources International (CRI), an international NGO and Unicef under the Child-Friendly Schools Programme. In Sindh, the Aga Khan Education Service Pakistan, is implementing the Improving Pre-Primary and Primary Schools in Sindh (IPPS) in community-based rural schools since 1995; and the Teachers’ Resource Centre (TRC) is implementing the Early Childhood Education Programme (ECEP) in Karachi government and district municipal schools since 1998. In Punjab, Plan International began an ECCD programme in 7 centres in Chakwal district in 2002, while in the same year, the Department of Literacy and Non-formal Education established rural ECE centres in rural government schools in several districts of Punjab.³⁹

Recent National Policies and Reforms

Upon committing to ECCE activities as one of the six goals of EFA at the World Education Conference in 1990, the government revived interest in ECE programmes.

The present initiative to support early childhood learning followed from the National Education Policy (1998-2010), which called for an introduction of Kachi/pre-primary class as a formal class in primary schools, extending primary education from a five-year to a six-year programme: “Kachi class at primary level shall be introduced as a part of the effort to improve achievements of pupils” and “Kachi class shall be institutionalized in the primary cycle gradually and progressively.”

³⁵ Ghulam Ali, A. (1990): *Situation Analysis of Basic Education in Sindh*, Pakistan: UNICEF p 35

³⁶ Unesco (2006²). *Pakistan: Early Childhood Care and Education (ECCE) Programmes. Prepared for Education for All Global Monitoring Report 2007*. Geneva, Switzerland: UNESCO International Bureau of Education.

³⁷ unesco (2006²). p. 2

³⁸ Shakil, S. (2002): *An Overview of Early Childhood Care & Education in Pakistan, (An Initial Survey & Situational Analysis)*. Islamabad: AKF p 9

³⁹ Unesco (2006²). p. 4

Subsequently, the Education Sector Reforms (ESR: 2001-05) supported ECE through financial allocations to the federal capital as well as to the provinces and other areas. At present, the Medium-Term Development Framework (MTDF 2005-2010), has a five-year plan, which is also supporting ECE.⁴⁰

Continuing Issues

The Unesco report identifies a number of continuing issues for ECCE in Pakistan. These are listed below.

Political Commitment: *There was a need for a strong renewed political commitment for ECE in all policies and plans of the Government of Pakistan, including the Medium Term Development Framework (MTDF).*

Budget Allocations: *Specific budgets are needed for improving the existing traditional Kachi classes in all public primary schools.*

Age Group for Early Childhood Education: *The relevant age group for Kachi enrolment should be 3-5 years; and a child above 5 years could be admitted to Class I.*

Merger of the Formal Primary Kachi and the ECD Centres: *There are several ECE centres operated by the Departments of Literacy in Punjab and Sindh within the premises of the formal primary schools. There is a need for a gradual transition of the traditional Kachi class to improved ECE class.*

Quality Improvement: *Teachers' training; material development and participation of parents/community in monitoring activities were required for improvement in ECE quality.*

Data Collection, Compilation and Dissemination: *Collection, compilation and dissemination of more detailed information on ECE enrolments; number of institutions offering ECE and ECE teachers across provinces by age and gender was required for better planning of ECE programmes and activities.⁴¹*

Curriculum & Policy

The Unesco report indicates that there is need for ongoing political initiative, programme development and advocacy for ECCE in Pakistan. The results of the study indicate that an effective, culturally-appropriate, child centred, activity and play-based curriculum can be successful in Pakistan. The ECEP not only provides an effective curriculum model, but also a model of effective change in Pakistani schools. The study provided TRC with more evidence of the importance of ECE. The research confirmed the belief in the importance of children's early experiences and learning from 0-8 years towards achievement later in life, especially for children who are disadvantaged in some way. The results of the programme formed the basis of TRC's more formal process of policy dialogue with the Government of Pakistan to establish the curriculum developed with teachers as the *National Curriculum, Early Childhood Education*, Government of Pakistan⁴².

Challenges for Schools

Despite the many obvious signs of the success of the programme, both Heads and teachers acknowledged a number of challenges with which they were grappling. For teachers, the major challenges were time, space and furniture, materials and their storage, pedagogical skills, parental expectations and support from the Heads. They found it difficult to find the time to make learning materials. Their classroom space and furniture did not always easily lend itself to the kind of use promoted in their training. They had to put away all the materials and

⁴⁰ Unesco (2006²). p. 5-6

⁴¹ Unesco (2006²). p. 8.

⁴² Complete reference

re-arrange the furniture in rooms they had to share with other shifts in the building. Teachers had to use their own resources for making / replacing learning materials, and in some cases, even the displays were destroyed by children in other shifts. Some teachers found it difficult to manage a large number of students, some of whom had recently been admitted as a part of the Literacy Day campaign. Most teachers were unable to let go of their need to 'control' the children, possibly because they had been socialized over many years of their own schooling, as well as in their professional experience, to conceptualize the work of teaching in images that fit with 'the TRC way.' Teachers who had a Head who was not supportive of the initiative said, "Before we had *Kachi*, the children already knew their ABCs and 123s before they joined school. Now they don't because parents know we'll teach them, so they don't bother to teach them at home. It was easier to teach and learn before *Kachi*. Now there is more work because of the material making and because it is activity-based it takes longer than rote learning." Some teachers also mentioned that meeting parental expectations regarding homework and examinations had an impact on their practice. A teacher explained that instead of monthly tests and homework every day, they tested the children once in two months and assigned homework on alternate days. The support they received from the Head of their schools had an obvious and immediate impact on their practice. Those who had supportive Heads were able to acquire materials, storage space, furniture, tolerance and sometimes interest of other teachers. The massive changes that happened in many schools indicate that effective and lasting change is possible, but the results also point towards the necessity for continuing extensive professional development for heads and administrators.

Culturally Appropriate Curriculum

The curriculum framework used in ECEP was based on constructivist principles that evolved from Piagetian and neo-Piagetian models of child development. The child-centred curricula that evolved from the constructivist approach are ways of providing children an educational and care situation in which they construct their own knowledge through experience and involvement with their environment. Some developmental psychologists (such as Erica Burman) believe that so-called child-centred curricula that claim to evolve from the constructivist approach are inappropriately seen as ways of constructing the environment to foster development within a western context⁴³. Great care was taken by TRC to develop a child-centred curriculum, which was constructed to consider the child's context including family, community and culture. This is in agreement with the work of Burman⁴⁴. One of the important lessons learned from this project is that curricula can be inspired and even shaped by theoretical models (such as constructivism), but above all it must evolve from the children and their culture.

Teaching Practice & Teacher Training

The study demonstrates that teachers effectively used ongoing and supportive in-service teacher training to make radical changes in their approaches to teaching in the *Kachis*. Not only did they change, but in subsequent work they have become trainers of other teachers willing to learn about the new approach. A model for rural teachers has also been developed and implemented, on a small scale, in Balochistan and Sindh⁴⁵. The study opens the question of how these methods can become more widespread in Pakistan. In addition, the results indicate a need for effective pre-service training

⁴³ That is, a western European and non-Latin North American perspective.

⁴⁴ Burman, E. (1994) *Deconstructing Developmental Psychology*, London: Routledge

⁴⁵ TRC trained teachers as part of AKF-USAID's RCC Project in Balochistan and Sindh.

Unanswered Questions & Further Research

The nature of this complex intervention and study is that it generates as many new questions as it does answers. Amongst the questions that could be considered in future researches are:

1. Are there long term effects of the intervention for the children involved? Ideally such a study would use normed measures, starting with local exams, but also using other normed instruments. There are serious challenges of cultural bias in many normed instruments, but this could be overcome through research designs using double formats, measures of change from a baseline established in Pakistan or use of comparison groups. It is essential that any design avoid using Western norms to evaluate the children in any follow up study.
2. Ongoing studies of how teachers use the curriculum would be most interesting; finding out how their work evolves and how they integrate the curriculum principles into their teaching.
3. How do those who make policies and implement them, facilitate (or block) change towards this curriculum approach?
4. Can the beliefs and approaches of the curriculum model in the intervention, be extended to classes one through five?

A Final Comment

This study is an example of grass roots change that is based on a passionate belief in the development of a play based, child-centred curriculum that is appropriate for children in Pakistan. Passion can interfere with precise research design, but the knowledge about children, teachers and curriculum that grows from such a study is remarkable. The results of the project have direct implications for ECE policy in Pakistan. TRC continues this work in the *Kachis*, with school authorities and at a national level. Of equal importance is the description of the process. Through identification of all the stakeholders (especially the children) and carefully planned interventions both in and outside of the *Kachis*, TRC assured substantial change. Preparing teachers as trainers for their peers helped make the project sustainable. The list is lengthy and has already been reported in the prior material. It is important to remember that the ECEP curriculum may not work in every country, but the TRC process provides a model of change that should be used globally.

This project supports previous studies that indicate that developmentally and culturally appropriate curricula are essential to any effective early childhood programme. The fact that it has been used to move beyond change in one city, to provide one of the cornerstones for the National Early Childhood Education Policy, indicates the importance of the project and its outcomes. It also sends a message to all early childhood educators that our valuing of children, should lead to advocacy for excellent curriculum, based on strong evidence from research.



Teachers' Resource Centre
C-121, 2nd Floor, Ehtesham Centre,
National Highway, Phase II, DHA, Karachi.
Website: www.trconline.org
Email: info@trconline.org



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