Most of the low-income, under-educated mothers in rural areas of Sri Lanka are disadvantaged and unable to provide their children with a healthy home environment, guidance, or the material support required for their children's education. This study hypothesized that educating low-income, under-educated mothers to develop their own literacy skills would enhance their capacities to develop their children's language competencies. The sample consisted of 20 low-income, under-educated mothers whose children were in grade 2 in the village of Uyanwatta in the District of Kandy in Sri Lanka.

Literacy development activities related to 4 major components of language development were conducted with the mothers for 8 weeks. The mothers' skill development was measured by a 5-point Likert-type rating scale and by observations made by 4 observers on mother-child interaction activities. The data revealed that educating low-income, under-educated mothers to develop their literacy skills enhanced their capacities to assist their children's language development to a greater level in listening and speaking than in writing and reading. (Contains 42 references.) (Author/SD)
Parent-Child Literacy Intervention

in a Family Development Project in Sri Lanka

Indranie Dharmadasa

Auburn University, Alabama

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Indranie Dharmadasa
Abstract

In this study I hypothesized that educating low income, under educated mothers to develop their literacy skills may enhance their skills to develop their children’s language competencies. The sample consisted of 20 low income under educated mothers who had their children in grade two in the village primary school. Literacy development activities on four major components of language were conducted with the mothers for a period of 8 weeks. The mothers' skills development were measured by a five point Likert type rating scale and observations made by four observers on mother-child interaction activities. The data revealed that educating low income under educated mothers to develop their literacy skills, enhanced their capacities to assist their children’s language development to a greater level in listening and speaking than in writing and reading.
Parent-Child Literacy Intervention in a Family Development Project in Sri Lanka

Most of the low-income, under-educated mothers in rural areas are disadvantaged, unable to provide their children with a healthy home environment and guidance or material support required for their education. The literacy levels of the young children in rural communities are far below the expected standards. They often perform poorly in their academic activities in the school (Dharmadasa, 1988; Weerakkody, 1988). Considerable studies record that children of low-income and under-educated parents lag far behind the more economically and socially advantaged parents' children in acquiring their language skills (Chall, 1983; Kirsch, & Jungeblut; 1987 National Assessment of Educational Progress, 1985).

This study was conducted as a part of a long term family development project based on the village of Uyanwatta in the District of Kandy in Sri Lanka. The Uyanwatta village consisted of two village headman (Gramasevaka) divisions which made approximately 80 families included in the area. The socio-economic standard of this village has been very much lower compared to many other areas in the district. The village population comes under the category of 'poor' (Alailima, 1986; Marga, 1981). Landless agricultural workers, small land owning peasants, workers in small scale (often cottage type) rural industries, small traders, and individually operating craftsmen like carpenters and masons form the dominant proportion of the poor (Alailima, 1986; Bhalla & Glewwe, 1985; Dharmadasa, 1994; Edirisinghe, 1990; Marga, 1981).
Kularatna, Dharmadasa and Dharmawardana (1990) found lack of motivation, lack of support given within the family for formal learning, poor economic conditions and household chores as major parent-related causes that hindered children's academic performance. According to Abeyadeva (1988), Dharmadasa (1994) and Paranavithana (1988) the father is the primary bread winner in a family, and the mother spends most of her time at home looking after the children and attending to the household work.

Considerable studies on emergent literacy bear evidence that the role of primary care giver, usually the mother is a mediating factor between the mother tongue and the child's language development. The mother is a strong mediating factor related to a child's achievement (Brown 1979; Bruner, 1985; Cole & Griffing, 1980; Eavenson & Gorrell, 1991; DeTemple & Beals, 1991; Snow, 1991; Wertsh, 1979; Wood, 1980). The "scaffolding dialogue" in early mother-child interaction has been proven effective for emergent literacy of young children (Bruner, 1985; Furstenberg, Brooks-Gunn & Morgan, 1987; Ninio & Bruner, 1978; Sulzby, 1986; Pellegrino, Brody & Sigel, 1985; Rogoff & Gardner, 1984; Vygotsky, 1978). Maternal low educational attainment (Dubow & Luster 1990; Furstenberg, Brooks-Gunn & Morgan, 1987) and low intellectual ability (Longstereth, Davis, Carter, Flint, Owen, Rickert & Taylor, 1981; Luster & Dubow 1992; Yeates, MacPhee, Campbell & Ramey, 1983) tend to provide a less supportive environment for their children.
Poverty has an impact on family processes that affect the child’s learning outcomes; it often diminishes the capacity for supportive, consistent parenting and affects children’s experiences in different settings outside the home (Furstenberg, Brooks-Gunn & Morgan, 1987; Dubow & Luster, 1990; Luster & McAdoo, 1994; McLoyd, 1990; Werner, 1985; Wordsworth, Taylor, Osborn & Butler, 1984).

Research related to Sri Lankan children’s language development indicates that parent’s low socio-economic standard and under education are two major factors which affected children’s language competency (National Institute of Education, 1988). Although a considerable body of research reveals that the mother is a critical mediating factor that affects children’s literacy, development studies which directly address this question are scarce in Sri Lanka. Little is known about the effect of mothers’ ability to involve in children’s language development, specifically in low socio-economic groups in Sri Lanka.

Based on the above theoretical background, it was hypothesized that educating low income, under-educated mothers to develop their literacy skills may enhance their capacities to assist their children’s language competencies in four major components: reading, writing, listening, and speaking. The major objective of this study was to examine the effects of the literacy intervention on mothers' skills which in turn would develop abilities to assist development of their children’s language competencies; specifically to identify the extent the literacy intervention affected mother’s skills on each of the four domains of language competencies: reading, writing, listening, and speaking.
Method

Sample

The sample of the study consisted of 20 under-educated mothers in low-income families (with an income of fewer than 1000 rupees per month, equivalent to about $21.00), in the Family and Child Development Project in the village of Uyanwatta who had their children studying in the second grade at the village primary school. This sample had six mothers with formal education up to Grade 5, two mothers up to Grade 4, ten mothers up to Grade 2 and two mothers without any schooling at all. Four mothers, two who had education up to Grade 5 and two who had education up to Grade 2, dropped out of the study due to the poor health conditions of their children.

Eight of these families were also included in the poverty alleviation Janasaviya (people's strength) welfare program initiated by the state. Five of the sample families had a small house each with two sections and eleven families had a small house each with three sections. These sections are not separate rooms. Four families had a small house each with 4 sections, one of these sections was a separate room and one other section was used as the kitchen. In any of these houses there was no room or a separate section set apart for children to study. Children studied in the common table which the family used for most purposes at home. Children had only the text books which were provided by the State. Most of the children or their parents had never gone to a library for purposes of reading or borrowing books. Mothers had no
idea how to help their children with their studies. Based on the family demographic profiles, more than 90% of the sample families in the village were living in poverty and the children involved could be considered educationally "at risk".

Procedure

The interventions in four domains of language skills were provided to the mothers by a team of eight instructors who functioned as research assistants. They conducted regular work sessions and discussion classes on the four domains of language competency: reading, writing, listening and speaking. These four skills which emphasized the development of the primary school child's language competencies have been included in the elementary language curriculum (Ministry of Education, 1989). The content material for interventions included understanding relevant language competency levels according to the child's developmental stage, developing mother-child language learning strategies, using available resources to assist children's learning, developing the child's creativity in language learning, getting family members' cooperation to assist the child and developing awareness of the child's requirements for his or her class work in the school.

Four research assistants were trained to function as observers to assess mother's behavior in the performance of language skills in the four domains of language competencies. Special training sessions were conducted to train these observers in responding to rating scales used in observation schedules. Interrater
reliability coefficients (Cronbach, Gleser, Nanda, & Rajaratnam, 1972) were estimated to test the consistency of their observations. The coefficients found were .80 for reading competency, for writing competency .79, listening .78 and speaking .80.

The interventions in the form of literacy activities on four major components of language were conducted with parents and children for a period of 8 weeks, 2 hours per day from 4:00 p.m. to 6:00 p.m. during the weekdays and on Saturdays from 1:00 p.m. to 3:00 p.m. Saturday sessions were conducted to help mothers who missed sessions during weekdays. The instruction sessions were held at the village primary school. Each day, two teachers worked as instructors.

Instructors conducted work-shops and discussion sessions and they educated mothers to develop their knowledge and skills in the domains of four language competencies to enhance their children's language development. In the domain of reading competency: mothers were taught and trained to understand their children and their reading competency levels, proper use of libraries by them, provision of appropriate reading materials for children, development of reading materials using available resources, engagement of mothers in reading activities with their children and use of family members to develop cooperative and shared reading. In the domain of writing, mothers participated in various activities to acquire skills to help their children's writing. The mothers were taught and trained in understanding their children's writing competency levels, using family members to develop cooperative and shared writing, incorporating writing with creative skills, writing on hand-made
bags, cups, books etc., using available materials to write and engaging in writing activities with children. In the domain of listening, activities were organized to develop competencies in, attentive and intentional listening, understanding child’s sound awareness, and use of available resources. In the domain of speaking competency, mothers were educated to develop skills and knowledge in relating stories, giving speeches, using parent-child conversation and using daily life incidents to enhance their children’s speaking competencies. Overall, the mothers were constantly encouraged to create their own strategies and use resources available in their own environment and build up active roles as facilitators of their children’s language learning.

Mother-child language activities were assessed to examine mothers' skills of enhancing their children’s language competencies in appropriate domains. Mothers were asked to perform four separate activities showing their skills in four domains of language competencies. Where necessary, mothers brought with them other family members to assist them in performing their activities. Each mother was given 40 minutes for the performance of their competencies and one week's time was given for the preparation of their activities. The assessment was conducted on a Saturday and Sunday from 8:00 a.m. to 1:20 p.m. in a classroom in the village primary school. The four observers made their individual ratings and also they made their independent observations regarding the open-ended question at these sessions.
The observation instrument for the study was developed in two parts by the researcher closely following the Grade 2 Mother tongue curriculum and teacher guides (Ministry of Education, 1989). Part I of the instrument intended to gather quantitative data related to mother's competencies developed as a result of the interventions made on them, while the part II of the instrument had a structured open-ended question to gather qualitative information about the mothers' competencies developed consequent to the intervention program.

For the part I of the instrument, a Likert rating scale was developed to measure mothers' skills in enhancing their children's language development under four major categories: reading, writing, listening and speaking. Gronlund (1985) stated that rating scales are most helpful in evaluating procedures, products and personal-social development. The 5-point Likert type rating scale measured competencies under the four categories in the four language domains, from strongly disagree to strongly agree. Items were coded negative to positive, targeting the strength of the particular skills. A rating of "1" in a particular item indicated the mother was not at all competent in the specified skill. A rating of "5" indicated that the mother was highly competent in the specified skill. The structured, open-ended question in the part II of the instrument required the observers to describe their observations related to mother's development of micro-skills in each of the four domains of language competencies. The items of the instrument were reviewed by three teacher educators in a college of education for...
pre-service teacher training, and were revised as necessary in agreement with the researcher.

Analysis

Descriptive statistics and repeated measures analysis of variance (ANOVA) were used to examine the effects of the intervention on mothers' skill development for enhancing their children's language development in the four domains of language competencies. Post hoc comparisons were made with Tukey's test to determine the specific location of the particular effects. A qualitative approach was adopted in the analysis of descriptive data related to observer views, recorded as responses to the open ended question in the part II of the instrument.

Results

The data analyzed using both quantitative and qualitative procedures revealed a positive impact of the interventions conducted with the low-income under-educated mothers on their language competency skills to assist, guide and enhance their children's language competency development. Mean scores of mother's literacy skills in domains of language competency are presented in the Table 1.

<table>
<thead>
<tr>
<th>Insert Table 1 about here</th>
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<tr>
<td>Means for the domains of listening and speaking were significantly higher than the means for the domains of writing and reading. Although the mean of reading was smaller than the mean of writing, the standard deviation of reading which is 1.16</td>
</tr>
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</table>
indicated a smaller variation in the group than for writing domain which indicated a standard deviation of 1.89. In the domain of speaking, the standard deviation of 1.26 evidenced a smaller variability in the group compared to domains of reading, writing and listening.

Results of one-way repeated measure ANOVA indicated that there were statistically significant differences among domains of language competencies developed by mothers consequent to the interventions conducted for a period of 8 weeks, $F(3, 45) = 97.55, p < .001$. Follow-up comparisons using Tukey's HSD procedure revealed that shooting scores for the domain of listening ($M = 15.25$) differed significantly ($p < .01$) from the domain of reading ($M = 8.50$). The domain of listening also differed significantly ($p < .01$) from the domain of writing ($M = 8.69$). The shooting scores for the domain of speaking ($M = 15.63$) differed significantly ($p < .01$) from the domain of reading ($M = 8.50$). The domain of speaking also differed significantly ($p < .01$) from the domain of writing ($M = 8.69$). Although overall treatment was statistically significant ($F (3, 45) = 97.55, p < .001$), Tukey test results showed significantly greater effects in the domains of competencies of listening and speaking compared with reading and writing.

The data related to observers, views for the open-ended question showed substantial clues that revealed 4 themes of micro-level skills: creativity in using helping strategies, use of resources available in the environment, building family members cooperation to assist children's learning and planning mother-child
interaction strategies. These four themes also were analyzed in terms of the four domains of language competencies. The analysis indicated that creativity and use of available resources were powerful areas of skills that were developed related to mothers’ enhancement of children’s language competency development.

Discussion

The intervention appears to have had a considerable impact on the development of mothers’ skills related to enhancement of their children’s language development in the four domains of competencies. This is well explained when considering the fact that these mothers at the outset of the intervention did not possess required and appropriate skills to help their children in their language competency development activities. Either due to ignorance, negligence or lack of motivation, these mothers did not assist their children in any way to help them in their language development and whatever resources available to them were not utilized before the interventions started.

Mean scores of mothers’ literacy skills in the four domains of language competencies, as shown in the table 1 explain the specific effects of the intervention. The high mean scores related to domains of listening and speaking explain that treatment has been more effective in developing mothers’ skills in the domains of listening and speaking than in reading and writing. This finding is further supported by Tukey test comparisons.
The data gathered from the observer views also indicate that there have been positive effects of the intervention on each of the four domains of language competencies at micro-levels. The categorical analysis related to the domain of reading competency explains that 75% of the mothers have acquired creative abilities and skills in the use of resources available in their home environment such as developing reading materials, making story books out of paper cuttings, collecting prints and drawings, etc. Most of the mothers tried to promote family members to be involved in using strategies to develop their children's reading competencies. Mothers who had their older children in higher grades succeeded in getting them to assist in younger children's reading activities. The mother-child cooperative reading activity also showed similar effects. Only the five mothers who had up to the education 5th grade helped their children with reading in a more effective manner.

The findings of the study show that in the domain of writing competency, 80% of the mothers have developed skills in the use of available resources and their own creativity in assisting their children. The mothers developed their own writing strategies to use with their children such as writing on the sand, writing on the hand-made clay slates, writing on home made journals etc. It was revealed that the mothers started using various kinds of hand-made or natural tools such as bird feathers, leaves and various kinds of home made ink for writing. Close to 50% of the mothers developed competencies needed to help their children's writing with paper and pencil. It appears that mothers have developed creative skills strongly in two domains of language competencies: listening and speaking.
According to observers' views it was revealed that more than 90% of the mothers have developed micro-level skills under all four themes: creativity in using helping strategies, use of resources available in the home environment, obtaining family members' cooperation to assist children's learning, and planning mother-child interaction strategies. Almost every mother was effective in obtaining family members' cooperation and mothers themselves got actively involved in language development activities with their children. The mothers used a variety of available resources such as tins, drums, glasses, branches of plants, etc. to make sounds with the child. The mothers developed games for mother-child listening strategies, mother imitating birds' sounds or animals' sounds and allowing the child to listen and guess. The child was given one point each for a correct guess.

Similar effects as that of listening was evident in the domain of speaking competency. The cooperative activities with the family members where conversation took a main part, showed that to a great extent mothers developed skills in the domain of speaking. The four themes of micro-level skills and their relations to each individual domain of language competency revealed a clear picture of the effects the intervention had on development of mothers' language skills at micro-levels. It also shows that mothers developed greater abilities at micro-level in the domains of listening and speaking more than in reading and writing.

The results of descriptive and qualitative analysis further reveal that mothers have developed abilities specifically in the two domains of listening and speaking.
more than in reading and writing. Snow (1991) showed that various oral skills are differentially related to literacy. One major function language serves is to enable negotiation of interpersonal relationships. Snow explained that shared knowledge, gesture, interactive negotiation of meaning, and listener feedback as resources which speakers and hearers draw relevant information. In the present study where interpersonal relationships were more concerned in mother-child activities, Snow's perspective provides a light to understand the positive effects found specifically in the domains of listening and speaking. Although early reading acquisition process must be viewed as an informal teaching learning process (Holdaway, 1979; Mason, 1980; Teale, 1982), findings of this study reveal that under-educated parents find it difficult to develop their skills in reading and writing activities, which their children of grade 2 require to improve their language competencies.

This research may provide some insights that may lead researchers to seek solutions to the problems concerning development of children's language competencies and development of parents' literacy skills. It would be interesting to examine these problems by means of control research design models which may help to identify more crucial aspects of the effects. Measures can be developed to assess micro-level effects of competencies within each of the domains. Also, long term studies may provide a path to identify effects of the four domains of language competencies over a longer period of time.
The teachers need to be concerned with the possible assistance that can be obtained to help in developing language competencies of young children. The findings of this study support the theory that by educating low-income under-educated parents to develop their literacy skills, it is possible to enhance their children's language competency development. The parents will be able to provide their children with required assistance, resources, appropriate mother-child interaction, and creative self-learning strategies, specifically in listening and speaking domains of language competency. The parent education programs have had longitudinal positive effects on grade retention and reducing drop-out rates of school children (Rubin, Olmstead, Szegdon, Wetherby & Williams, 1983). The findings of the present study suggest the effectiveness of programs that will educate, guide and assist low-income under-educated mothers to develop their literacy skills. Through such intervention programs parents would be made more competent to provide their children with more effective support for the development of their language competencies.
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Table 1

Mean Scores of Mother's Literacy Skills in Domains of Language Competency

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
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<tbody>
<tr>
<td>Reading</td>
<td>16</td>
<td>8.50</td>
<td>1.16</td>
</tr>
<tr>
<td>Writing</td>
<td>16</td>
<td>8.69</td>
<td>1.89</td>
</tr>
<tr>
<td>Listening</td>
<td>16</td>
<td>15.25</td>
<td>1.44</td>
</tr>
<tr>
<td>Speaking</td>
<td>16</td>
<td>15.63</td>
<td>1.26</td>
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</tbody>
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