



Running head: ADULT LITERACY PROGRAM DEVELOPMENT AND EVALUATION  
Development and evaluation of an adult literacy program in Turkey

Aydın Yücesan Durgunoğlu  
University of Minnesota, Duluth

Banu Öney  
Education Development Center

Hilal Kuşcul  
Mother Child Education Foundation

**Abstract**

In this paper, we discuss the Functional Adult Literacy Program (FALP) that we have developed in Turkey. FALP, which is taught by volunteer instructors, focuses on individuals who have had no or very little schooling. The two evaluation studies of the first three cohorts of the program indicated that FALP was significantly more effective than the existing programs in developing word recognition and reading comprehension. However the longevity of the gains depended on the initial levels of the participants and the extent of literacy use after the course was over. Based on the evaluation data and our observations, we discuss the implications for adult literacy programs in general.

### Development and Evaluation of an Adult Literacy Program in Turkey

Literacy is a crucial life skill, which enables individuals to participate more fully in the practices of their community (Abadzi, 1995). However, there are dramatic differences in literacy levels observed around the world, such as between developed and developing countries and between males and females (Ramdas, 1989; 1990). Because literacy levels are assumed to reflect the quality of the human capital in a society-- thus having implications for economic growth-- there is continuing interest in adult education and literacy (Fuller, Edwards & Gorman, 1986; Wagner, 1986). Female literacy is particularly related to the status of a country's health. For example, 1-3 years of maternal schooling is associated with a 15% reduction in infant mortality rates (Greaney, 1996; but see Hobcraft, 1993 for a contradictory finding). As Ballara (1992) summarized, to reduce infant mortality, a one percent increase in women's literacy levels is three times more effective than a one percent increase in the number of doctors. Increasing literacy levels have also been shown to correlate with reduced fertility rates, and child malnourishment, as well as better participation in the political decision processes of a community and economic development, (Ballara, 1992, Greaney, 1996).

Consequently, there have been many national campaigns and large-scale efforts to increase the literacy levels, for example, in India, Tanzania, Brazil, Nicaragua and Cuba (for a review see Arnove & Graff, 1987). These campaigns usually report global outcome measures, such as the number of people reached by the campaign, but "such figures tell little about the literacy levels achieved, or the uses and implications of literacy acquisition" (Arnove & Graff, 1987, p. 21). To make the picture even more complicated, literacy requirements and practices change as societies become more technology-oriented. Individuals who can decode and spell cannot be considered literate, because critical thinking, learning from text, and a high level of comprehension are becoming more important as societies and jobs change. In addition, the national campaigns usually adopt a "illiteracy-as-a-disease" analogy, and assume a strict dichotomy or threshold between literacy and illiteracy rather than view literacy development as a continuum. Such a dichotomous perspective leads to the oversimplified premise that once basic decoding skills are achieved, the disease is eradicated and the job is done.

Although literacy levels are quite important for community development, the human capital view is criticized by some analysts who suggest that literacy by itself is not necessarily the silver bullet that empowers individuals and improves their lives, but that social, economic and political realities, especially for women, must also be considered (Ramdas, 1990; Street, 1986). As Street (1995) discusses, lack of literacy is more often a symptom rather than a cause of economic deprivation. For example, an individual may be sufficiently literate to read about how diseases are transmitted, but if potable water is not readily available, literacy is not necessarily useful in preventing diseases. When designing UNESCO's worldwide literacy program, some workers were polled to determine their vocational problems, -such as low wages, which do not necessarily lend themselves to solutions through education (Gillette, 1987).

Another dilemma is that educating adults is usually less effective and more costly than educating children. Should limited resources be funneled from adult to child education? This is not just a question of cost because the support of the family is quite important for children to succeed academically and socially. For example, Snow, Barnes, Chandler, Goodman and Hemphill (1991) discuss that parents can help their children by direct teaching, or by creating opportunities to learn and by providing them with role models. In fact, the best predictors of a child's word recognition and vocabulary development were a mother's educational level and educational expectations for her child (for example, the grade that the mother expects the child to complete). Such data make adult (and especially female) education a crucial factor in child education and complicate the assessment of the costs and benefits of adult education. Although difficult, determining the impact of adult education, especially adult literacy education, as well as describing the factors that make a program effective have important implications for governments, policymakers, administrators and Nongovernmental Organizations (NGOs).

Yet another dimension in adult literacy has to do with the effectiveness of instructional strategies. Whereas children acquire literacy over an extended period of time, adults are expected to

acquire complex literacy skills over a much shorter time. Furthermore, whereas children are in a school environment that demands continued interaction with print, adults upon exiting a program may (and usually do) return to settings in which the practice of literacy skills is rarely encouraged. Therefore adult literacy programs have to rely on effective instructional strategies that are capable of developing and sustaining literacy.

In this paper, we first describe the characteristics of a pilot adult literacy program that we have developed in Turkey. We then summarize the evaluation of the program's first three cohorts, assessing the development of the participants, and discuss the lessons that we have learned and used in revising the program. (Although it is preferred that program developers not conduct the evaluation study, we used objective measures and consistent instructions to reduce any possible bias).

The research base addressing the development of participants in adult literacy classes is not very extensive (for exceptions see Greenberg, Ehri & Perin, 1997; Perin, 1988). Although global studies relating literacy development to such variables as fertility, healthcare and economic development, are conducted (Ballara, 1990; Gillette, 1987), there are almost no studies investigating the effects of literacy development at the level of the individuals. Most research evaluates policies rather than the actual outcomes. As Abadzi (1995) states, "Though countless policy and methodological documents have been published, almost no rigorous research has been undertaken [on adult literacy acquisition]" (p. 3). Our goal in this paper is to help fill this gap.

### **Overview of FALP (Functional Adult Literacy Program)**

FALP is a 90-hour basic literacy program developed to foster literacy skills in adults with no or little schooling. In this section we will discuss the history, philosophy and instructional characteristics of FALP.

### **Origins of FALP**

In 1995, at the invitation of the Turkish Ministry of Education, and with the support of the Mother Child Education Foundation (MOCEF), we developed a functional adult literacy program with the goal of eventually replacing the existing programs. The existing 90-hour program which the Ministry of Education implements focuses primarily on building word recognition skills through repeated exposure to print; there is minimal instruction on word analytic strategies. Likewise, there is no focus on building critical thinking and strategic reading skills that enhance text comprehension. Furthermore the program is delivered by teachers (usually elementary school) with no special training in adult learning and development.

The charge given us was to establish adult literacy classes at several Public Education Centers around Istanbul and to establish the basic foundations of literacy in several months. Although the literacy rate is rapidly increasing in Turkey, there are still major gaps between genders as well as between regions. Literacy needs are especially acute for people migrating from rural areas to the big cities. For example, Istanbul is now a sprawling metropolitan area of more than 12 million people. Almost overnight new communities are built all around the city, as thousands of people migrate; hence literacy classes have to be organized to meet their needs as quickly and efficiently as possible. Faced with this challenge, we developed an intensive program to provide the basic functional literacy tools to these individuals, implementing practices that have been shown to be effective by recent educational research. Because of the time limitations imposed on us by the Ministry of Education, we designed 2.5-hour classes 3 times a week for three months: 36 class periods, adding up to 90 hours of instruction. We prepared 24 units to be used across those 36 class periods, allowing more time for some units, especially in the beginning. We also had some extra time set aside for testing. We wrote three textbooks for the program: Participant Textbook, Instructors' Annotated Edition and the Theoretical Guide to Literacy (Durgunoglu, Öney & Kuscul, 1995.)

### **The Target Population**

The target population for the FALP is quite different from that in adult literacy programs in the US or other Western countries. Adult literacy participants in the US typically need to correct problems not resolved in their schooling or they do not have English as their home language (Auerbach, 1996). They vary in reading skill, linguistic competence, motivational level, as well as intellectual capacity. The target population for FALP on the other hand was women with no or very little schooling, thus constituting a relatively homogenous group. Over 90 % of them are women, usually from rural backgrounds, in an urban setting.

### **The Philosophy of FALP**

Although adult literacy programs intend to strengthen the ability to read, write and calculate, they need to be embedded in a coherent philosophical and instructional approach to human learning and development. A general goal of FALP was to introduce the many dimensions of literacy and help the participants to use literacy to empower themselves (Freire, 1970). Above and beyond any instructional concerns, we tried to offer a program built on a solid foundation of respect for the individual as an intelligent adult. Most adult literacy programs in Turkey have a deficit model of illiteracy. According to this view, literacy is expected to “fix” some basic deficit. FALP teacher training sessions as well as the teacher guide have a strong focus on reversing this approach and establishing a respectful, trusting climate in the classroom.

FALP’s curriculum clearly sets specific learning goals and supplies the materials necessary to those goals. The aim is to provide a frame for instruction rather than to restrict teachers and participants in engaging in alternative literacy practices that are not prescribed by the program. Teachers are urged to bring in or develop materials consistent to their understanding of the potentials, goals and interests of the participants and participants are encouraged to engage in personal literacy activities reflecting their interests and needs. Thus, FALP invites teachers and participants to make literacy more relevant to their social reality.

FALP uses various approaches to literacy instruction, including those based on reciprocal facilitation of skills through group practices. In small group activities participants learn to support and enrich each other’s educational experience. The aim is to build a cooperative learning environment where participants share responsibility for learning and supporting each other.

### **The Approach to Reading Instruction in FALP**

FALP relies on principles of reading instruction based on current research in reading as well as the linguistic characteristics of the Turkish language and orthography. In developing the program we adopted a broad definition of literacy whereby participants were not only expected to learn how the writing system works but also develop an understanding of the functional contexts of literacy.

Building Phonological Knowledge. Learning to read any alphabetic orthography requires mapping abstract speech units (e.g. syllables, phonemes) to the symbols of the writing system (e.g., letters). Beginning readers need to understand that spoken language can be decomposed into abstract units, thus building phonological knowledge (Liberman & Shankweiler, 1991). FALP relied on various activities for building phonological knowledge.

Decoding. Instructional studies have demonstrated that decoding as a word recognition strategy can be taught to adults, but have not established clearly what methods are most effective (e.g., Janicke, 1981; Lewkowicz, 1987). Our previous research with children (Durgunoğlu & Öney, 1999; Öney & Goldman, 1984; Öney & Durgunoğlu, 1997) showed that decoding proficiency develops effortlessly in Turkish beginning readers due to the systematic correspondence between symbols and sounds. Thus FALP is characterized by a strong emphasis on the explicit teaching of decoding strategies.

Because Turkish has a transparent writing system in which sounds and letters map consistently, decoding instruction in FALP was straightforward. The usual teaching method in Turkey (also used in the existing adult literacy courses) is to start with whole sentences that are almost memorized. Only after whole sentence recognition is accomplished, individual words, and then

individual sounds are taught. We switched around this order in order to exploit the transparent orthography of Turkish. After establishing the identities and sounds of letters, we worked on syllables, which are very salient units in Turkish (Öney & Durgunoğlu, 1997). The syllables were combined in different orders to create many new words. These words were then used in sentences to integrate decoding with comprehension. After all the letters were learned, we also included practice in syllabification. Turkish is a highly inflected language in which 7-8 letter words containing 3-4 syllables are quite common. To facilitate the recognition of such long words, syllabification rules were explicitly taught and practiced.

Critical thinking, reasoning and reading. We emphasized that reading is not only word recognition. It requires comprehension, thinking, reasoning, inferencing as well as activating prior knowledge on a topic. It has been shown that poor readers often exhibit comprehension problems independent of decoding skill (Stanovich, 1982). The empirical literature in reading acquisition suggests that good readers use various cognitive skills while processing text. Good readers activate prior knowledge to help them integrate new text information (Wilson & Anderson, 1986), they are strategic in their processing of text, they monitor their understanding of text (Baker, 1990), and they are sensitive to the structural characteristics of text. Thus, FALP emphasized explicit cognitive strategy instruction besides an emphasis on building decoding skill. Each of the 24 units had a target reading passage. That passage was always about an event in the life of a fictional family. Above the reading passage was a picture depicting the event in the story. Before reading the passage, there was a discussion of the picture, encouraging the making of inferences, and relating the passage to one's own experiences (Perin, 1988). There were also reasoning exercises (for example, putting oneself in place of the character) and discussion after the passage was read. The same strategies were also used in reading newspapers.

Functional literacy. Our goal was to show participants that reading is a tool used in everyday life. We included applications and assignments that involved an awareness of the functions of literacy in everyday life, what Rogers (1999) calls "real literacies". The units had a central theme, and the applications were based on the theme (e.g., if the theme was finding the right bus, application tasks involved reading some labels on the public transportation system). Gillette (1987) mentions three instructional techniques that seemed to work well in UNESCO's world-wide literacy initiative: (a) Group discussions which encourage participant input not only help the participants, but also make the instructors realize "that the illiterate adult knows and understands many things" (p. 209). (b) Experiential, hands-on learning produces longer-lasting learning. (c) Finally, varying the instructional techniques increases participant interest. Of course, these three techniques receive support from the general educational research as well, and they have been incorporated into our program.

Appreciation of language. Because reading involves language, another goal was to enable the participants to "hear" the nuances and the richness in texts. For this purpose we have included short folk tales, proverbs and poems as reading materials. If the participants were unable to read them, the teachers read them out loud. Extra reading material (again poems, songs, expository texts) was also included in the student textbooks to encourage the participants to read on their own and at their own pace. The expository texts provided essential information such topics as immunization, first aid, and treating diarrhea.

We also used drama. For example, participants acted out the conversation in their reading passage, between a vendor and a buyer at an open market. Although in the beginning we were very hesitant to include such activities worrying that the participants may find them "childish", the activities were very well-received and enjoyed by the participants. This showed participants that reading and writing are not only for acquiring knowledge, but also for emotional enrichment, to lift our spirits, to make us feel empathy, anger, joy, interest, curiosity, and in short, to make us human. The importance of the affective component in literacy development is illustrated in this poignant observation by Gillette (1987). When visiting the libraries of Tanzania, Gillette noticed that vocational books on water supply and farming were not the most popular choices. Instead, newly literate villagers seemed to favor love stories, and books on politics, religion and especially, the biography of the Brazilian soccer player, Pele.

Child book reading. To practice reading in a meaningful context, every two weeks, the participants took home a children's book to read to a child. Reading behavior and questioning techniques were modeled and practiced in class before the participants took the books home. This activity had the added bonus of getting a child interested in reading and learning about reading critically and with comprehension.

### **The Logistics of the Courses**

The courses were conducted in intact classes, with group instruction for all participants. Interestingly, when we noticed that the participants had widely varying literacy skills, we decided to implement some ability grouping in the second cohort to better adjust the pace of instruction. However, this was met with strong opposition from the participants, indicating that low-ability grouping was a strong stigma for the fragile egos and was counterproductive. Hence, we have kept the all-class instruction while providing participants of different levels with opportunities to help each other.

### **A Typical Lesson**

The class started with putting the date on the board, and reading the newspaper headlines and discussing the news of the day. If an historical event had taken place on that day, it was discussed. Teachers used this occasion to model reading a newspaper, as well as to encourage the participants to decode certain new words such as names of the days and months. Then the teacher went over any homework that had been assigned. The next component was discussing the reading passage. With the help of the picture above the passage, the participants discussed what the passage might be about and volunteered any relevant experiences of their own. Then the teacher read the passage aloud and asked the listening comprehension questions. Next were the decoding exercises in which several new letters, and syllables constructed from those letters were introduced or reviewed. After the decoding exercises, the participants read the passage several times to each other in groups of two, or as a whole class, depending on the level of the class. After reading the passage, they answered more comprehension questions about it, writing their answers during the later stages of the course. Afterwards, they either completed application exercises, such as filling out forms, or read a poem, short story or an expository text.

### **Teacher Training and Observation**

The five teachers of the original cohort had a three-day seminar before starting to work in their classrooms. The teachers were university graduates who had completed the certification program of the Ministry of Education and were qualified as adult educators. However, none had worked as an adult educator before. The FALP training seminar introduced the cognitive and sociocultural bases of the program. Once they started teaching, the teachers were also observed and provided feedback on a weekly basis by a team leader. The team leaders also acted as resource people providing advice and suggestions to the teachers as they noted effective practices across all the classrooms they were observing. The teachers met as a group several times to discuss their victories as well as problems. A major contribution of these five teachers was to provide feedback to us which enabled us to revise the original program before the second cohort started.

### **Strategies for Increasing Participation**

Attracting participants to these classes was one of the biggest challenges as is true around the world (Rogers, 1999). Since it was not possible to hang fliers and expect people to read them and sign up for classes, teachers and MOCEF personnel contacted neighborhood and religious leaders and canvassed homes to encourage individuals to sign up. (One of our teachers got on a truck and drove around the neighborhood while announcing the literacy classes on a loudspeaker!) When children in the elementary schools were asked about their mothers' literacy levels, they provided very reliable information and we contacted those parents. Because most homes had a telephone or access to a neighbor's telephone, recruitment was made easier and less threatening. When encouraging women to sign up, many reasons were suggested,



including bettering oneself and being able to help one's children. Interestingly, if one family member or close neighbor decided to attend these classes, others usually followed. In our classes we had many pairs of mothers-daughters, in-laws, sisters as well as close neighbors. Another interesting aspect of canvassing was that in some cases husbands, fathers, brothers had to be convinced to let their wives or daughters attend the classes. Most of the families were very traditional, and males played a big role in the decisions concerning their female **relatives' education**.

### Evaluation

To evaluate FALP, both in-depth assessments and interviews, as well as quick diagnostic tests, were used to study participant development. In the first evaluation study, a subset of the first cohort was assessed at the beginning and at the end of the course as well as 6 months later with in-depth tests and interviews. This group was also compared to a control group attending the existing classical classes. [Henceforth the first group will be called "Functional" and the second one "Classical ".] This provided the in-depth look at the program. A wider look at the program was provided in the second evaluation study, when the performance of all participants in the second and third cohorts was analyzed. However, because of time and labor constraints, this second evaluation comprised of quick diagnostic tests. In sum, these two different studies together provided both depth and breadth in evaluation.

*[Insert Table 1 about here]*

### Study 1: An In-depth look

#### Participants:

The first cohort had 170 female participants (ages 15-65) at 5 different sites in Istanbul, Turkey. The subset in the evaluation study included 59 of those participants who were compared with 40 participants of the classical program (see Table 1). Both groups of participants were selected randomly. The only stipulation was that the classical group participants were selected from the same public education centers as the functional group participants to include individuals from same neighborhoods and similar backgrounds. As summarized in Table 2, the mean ages of the classical and functional groups in Study 1, as well as their marital status, occupation, years of living in Istanbul, and number of children were comparable.

*[Insert Table 2 about here]*

When participants from both classical and functional groups were asked about their reasons for attending literacy classes. The most common reasons they give for participating are "to improve myself" (47%) and "to be more comfortable in everyday interactions, such as taking a bus, and going shopping." (35%). A few also mentioned helping children (5%) and finding a job (3%). When the participants first started, they had a very narrow view of literacy and asked the instructors to "just teach them to read." Some viewed the preliminary discussion of text before reading as a waste of time because they assumed that being able to decode the written symbols was enough to be considered literate.

We have asked many women why they have not learned to read and write. Contrary to the common pattern in the United States, and other Western nations, the participants in the adult literacy courses in Turkey were neither second-language speakers, nor mildly learning-disabled individuals or disinterested students who fell through the cracks during their schooling (Purcell-Gates, 1995). Overwhelming majority of the participants in FALP indicated not being allowed to go to school (usually by fathers, grandfathers) and getting married quite early and raising children. Some also reported economic hardships and living far from a school as other barriers. Every participant had her own story of being marginalized and oppressed. A 60-year-old participant discussed the jealous rages of her husband who wouldn't allow her out of the house. She was now able to attend the classes as he was bed-ridden with serious arthritis. She stated that she always wanted to read the newspaper and tried to learn letters from TV programs (e.g., the Turkish version of the Sesame Street). Another participant discussed how she couldn't get



on a bus by herself because she was afraid of taking the wrong bus and getting lost. Another participant described how low she felt when her son's instructor scolded her for not helping with his homework. Yet another reported feelings of worthlessness when a nephew showed her his report card, and when she couldn't read it, asked if she was mentally disabled.

On the positive side, the participants usually reported a strong social network with other women, for example, their relatives or neighbors. Among those interviewed from the first cohort, 20% reported that they heard about the literacy classes from their neighbors. Some participants also received help and encouragement from their children. 23% reported hearing about classes from their children. The extent and the quality of such a support network may be crucial in literacy development. Participants also mentioned that these classes provided an opportunity to get out of the house and to interact with other women.

#### **Tasks:**

The participants were assessed and interviewed in the beginning and at the end of the courses (labeled as pre and post-tests, respectively), and 6 months after the course has ended (labeled as follow-up tests). The participants were tested individually, usually in their homes or in the classrooms by trained research assistants. Each task and its reliability coefficient is described below. (Due to an oversight, individual item information is not available for several tests. For the other tests, the reliability was computed using Cronbach's alpha).

#### **Pretests:**

- (1) Letter recognition: Turkish alphabet has 29 letters. The participants were asked to identify the 29 upper case and 29 lower case letters on a single page. The number correct was the measure.
- (2) Decoding: The participants were given 12 short words, reflecting the variety of vowel and consonant combinations found in Turkish. If participants did not recognize more than 10 letters, this test was not given.
- (3) Spelling: The participants were asked to write 12 words, ranging from 3 to 10 letters, some of the words with inflections. However, if a participant did not recognize more than 10 letters or read more than 5 words, this test was not given.
- (4) Syntactic knowledge: The participants were read 10 sentences that contained a grammatical error, and were asked to correct the error.
- (5) Listening comprehension: The participants listened to two short passages, (one passage stating the instructions for a prescription medicine, and the other an advertisement for a rental property) and answered six questions about each passage.
- (6) Vocabulary: The participants were given a word and asked to choose its antonym or synonym from a set of three other words given. There were 10 words in the synonym and 10 words in the antonym condition.

#### **Posttests:**

- (7) Letter recognition: This was identical to the one given as a pretest (Task 1 above).
- (8) Decoding (fast): 15 three-letter words (CVC) were given and the participants were asked to read these as quickly as possible. Although this task was timed, only the accuracy data were taken into consideration.
- (9) Decoding (familiar words): The 12 words given in the pretest were shown again (Task 2 above)
- (10) Decoding (unfamiliar words): The participants were given 12 new words ranging from 4 to 12 letters in length, including some highly inflected items.

(11) Spelling: The words given in Task 3 above were again used. However, because writing sometimes took painfully long, only 9 of those 12 words were included in this task.

(12) Vocabulary: Task 6 of pretest was given again.

(13) Reading comprehension: The participants were given a 75-word passage on air pollution in Istanbul. That passage was also provided in a form with words separated into syllables. The participants could read either version as they preferred. After reading the text aloud, they answered six questions about it. This task had a reliability of .82.

(14) Critical thinking: This task had three subtasks. The first subtask, ordering, involved four three-sentence stories given in a scrambled order. The participants were asked to reorder the sentences to make it sensible. The second subtask, categorization, was multiple choice and required the participants to find the superordinate category for the four words given. For example the four words were “bread, tomato, watermelon and cheese”. (All are foods commonly eaten together especially during summertime breakfasts). The choices were: a) all foods b) all fruits c) all are wonderful. There were four trials in this subtask. The third subtask, main idea, involved finding the main idea in each of the three short paragraphs read to the participants. The score on this task was number correct with a maximum of 11 points.

#### Follow-up tests:

(15) Decoding: There were 12 words to read, 4 monosyllabic 3-letter words, 4 5-letter two-syllable words, and 4 7-10 letter words containing 3-4 syllables.

(16) Spelling: There were 12 words to spell, ranging from 3 to 5 letters. These spelling tests were scored to reflect partial credit. For example, correct spelling of the word DEV would receive 5 points. However, if extra letters were added (DEV), it would be 4 points. If two of the phonemes were represented (DV), it would be 3 points. The reliability was .88.

(17) Sentence dictation: The participants were asked to write the 4 sentences read by the experimenter. Each word in the sentence as well as the overall format (spacing, punctuation) was evaluated, with 71 maximum possible points. This task had a reliability of .95.

(18) Reading comprehension: The participants read aloud two passages, one narrative and one expository, and answered 9 and 5 questions from each passage, respectively. Each question was worth 1 point, except for the two inference questions from the first passage worth two points, thus making the maximum score possible 17. The reliability of this task was .97.

During the follow-up testing there was also a short interview, asking about literacy use since the course had ended. (These questions are discussed in the results section in more detail)

## Results

The mean performance levels are given in Table 3. The differences between the two groups on the pretests were assessed by t-tests (with a Bonferroni-adjusted alpha value for 7 comparisons).

*[Insert Table 3 about here]*

The pre-tests indicated that two groups showed significant differences in their initial literacy levels. On letter recognition and decoding, the functional group was significantly weaker compared to the classical group. Out of the 58 letters given, the functional group recognized 39 whereas the classical group recognized 52. Out of 12 common words given on the decoding task, only 4.9 were recognized by the functional group but 8 by the classical group. The spelling proficiency was low for both groups. Out of 12 words given, the functional group could write only 1.08 words correctly (9%), whereas this number was 2.3 for the classical group (19%). In short, the functional group had started the courses significantly behind the classical group. We attribute this difference between the groups to how the participants were recruited for classes. The classical group consisted of participants who realized the importance of literacy and signed up for the courses on their own. The functional group, on the other hand, consisted of

participants who signed up for the courses after extensive fieldwork, canvassing and encouragement.

Although their decoding and spelling skills were limited, all participants had average levels of vocabulary (50% accuracy) and syntactic knowledge (67% accuracy) which did not differ between the two groups. This result was not surprising since all participants had Turkish as their home language. This also supports our informal observations that these participants did not have any serious cognitive deficits responsible for illiteracy. Although their syntactic and vocabulary knowledge levels were not very low, one interesting effect was observed on the listening comprehension test. After listening to a passage, the participants answered several questions about the passage. The general tendency was to answer these questions based on own world experiences rather than what the passage had described. The low levels on the listening comprehension test (25-27%) reflected this tendency. Hence, because of a lack of formal training, these individuals relied more on their own funds of knowledge rather than on information from a text (Moll & Greenberg, 1990). This pattern shows that schooling provides not only knowledge, but also different tools and assumptions for interpreting the world.

Because the existing literacy skills and possibly the motivational levels of the two groups were different, the performance on post- and follow-up tests were analyzed with some precautionary measures (Cook & Campbell, 1981). First, in order to investigate whether growth rates were different as a function of pre-test differences between the two groups, scatterplots of tasks that were identical during pre- and post-testing were analyzed. Second, to reduce the number of independent t-tests and experimentwise error, multivariate analyses of variance (MANOVA) was conducted on several measures that could be analyzed together because of theoretical reasons. Third, when conducted, multiple t-tests were interpreted with Bonferroni adjusted alpha rates. Finally, pre-test letter knowledge was always used as a covariate in both MANOVA and ANOVA tests. (In those tests  $\alpha = .05$ ).

The pretest letter knowledge was chosen as the covariate for three reasons: First, it is a complete test, assessing knowledge of all possible letters in the alphabet rather than a subset of them. In addition, during pretesting, decoding and spelling tests could not be given to participants whose letter knowledge levels were low. Hence using pre-test decoding and spelling scores would not accurately reflect the differential level of participants at the lower end of the distribution. Finally, at a theoretical level, in beginning readers, letter name knowledge has been shown to be a predictor of phonological awareness and through it, word recognition (Wagner, Torgeson & Rashotte, 1994).

Because regression to the mean can be a problem when groups have different initial starting levels, the differential growth rates of the two groups were inspected by using scatterplots linking pre- and post-test scores separately for each group and determining the regression equation of the best fitting line. If the slopes of the regression equations vary, then this indicates differential rates of growth between the two groups as the regression equation shows how participants with identical pretest levels would change as a function of the type of treatment. The intercepts indicate the treatment effect.

The first scatterplot shows the post-course vocabulary scores plotted as a function of pre-test vocabulary scores. (The vocabulary score was created by combining synonym and antonym scores). The two groups had similar performances as indicated by similar slopes and intercepts of the regression lines (slopes .56 vs .51 and intercepts 5.48 vs 6.56, for functional and traditional groups respectively). On the decoding and spelling tasks, the scatterplots showed a different pattern. The change in post-tests as a function of pretest levels varied between the two groups. The functional group had larger slope and intercept values for the decoding task. The slopes were .39 vs .24 and the intercepts were 7.14 vs 4.65, for functional and classical groups, respectively. For the spelling task, the slopes were .52 for both groups, but the intercepts were 2.54 vs. 1.56, for functional and classical groups, respectively.

*[Insert Figures 1,2 3 about here]*

To compare group differences in mean levels of performance, a MANCOVA was conducted on three post-test decoding measures: fast decoding, familiar word-decoding and unfamiliar word-decoding (Tasks 8,9 and 10, respectively) with pre-test letter knowledge as a covariate. There was a significant main effect of group, Hotellings  $T^2 = .30$ ,  $F(3,94) = 9.55$ , indicating that at the end of the course, decoding levels of the functional group were significantly higher.

Again using the pre-test letter knowledge as a covariate, the spelling performance on the post-test (Task 11) was analyzed. Spelling was not included in the MANCOVA above because although related to decoding, spelling requires some processes that are different (Bruck & Waters, 1990). This ANCOVA yielded a significant effect of group,  $F(1,92) = 4.22$ , indicating better performance by the functional group.

The advantage of the functional group was observed on the critical thinking items as well. The three critical thinking subtasks (listed under Task 14), analyzed with a MANCOVA, using pre-test letter knowledge as a covariate yielded a significant difference between the two groups, Hotellings  $T^2 = .163$ ,  $F(3,94) = 5.09$ .

More encouraging was the reading comprehension levels. No reading comprehension pre-test had been given because of low word recognition levels. However after only 90 hours of instruction, reading comprehension post-test showed that 50% of the comprehension questions were answered correctly by the functional group while this rate was 29% for the classical group. This difference was significant based on the ANCOVA with pre-test letter knowledge as a covariate,  $F(1,94) = 17.02$ .

On the follow-up tests given six months later, the differences between functional and classical groups disappeared. These data are summarized at the bottom of Table 3. Although the functional group did not go back to their previous low levels, they did not sustain their advantage over the classical group. A MANCOVA on word spelling and sentence dictation measures (Tasks 16 and 17) showed that the performance levels across the two groups were statistically equivalent, Hotellings  $T^2 = .052$ ,  $F(2,75) = 1.96$ . Separate ANCOVAs on decoding and reading comprehension scores also showed the two groups to be similar, both  $F$ 's  $< 1$ .

Because retention of literacy skills is a world-wide problem (Comings, 1995), we then analyzed the possible factors producing this decline in the functional group. Two factors became apparent: The proficiency level of an individual at the very beginning, and how much they used/practiced their literacy skills after the course was over.

During the follow-up interview six months later, we had asked 4 questions about how much reading and writing the individuals were doing on their own. The four questions and their scoring scheme were as follows: (1) Do you buy a newspaper? 0=no, 1=yes, 2=yes, started after the course. (2) Are you practicing reading? 0=no, 1=yes, 2=yes, finished the next level course. (3) What kinds of things have you written? 0=nothing, 1=taking a message, 2=short texts, e.g., a recipe, 3=long texts, such as a letter (4) Do you practice writing? 0=no, 1=yes. The total points in this survey, ranging from 0-8, were analyzed. There was a significant difference between the two groups [ $t(77) = 1.96$ ], when the classical group's score of 2.23 was compared to the functional group's score of 1.58. Although both groups seemed to have very little literacy use, the functional group's use was significantly lower. This can be due to several variables. The participants may not have had enough time to replace old habits and learn to rely on literacy skills after only a 90-hour course. In addition, the courses may not have succeeded in relaying the message that literacy can be a very useful tool in one's life. The participants may have needed more evidence to see that literacy is empowering and useful before they could integrate it into their lives. To address this issue, during the next cohort's teacher training seminar, we emphasized the importance of reminding the participants to practice their literacy skills as often as possible even after the course was over, and we included more functional exercises taken from everyday experiences.

As for the preexisting proficiency levels, when the extent of literacy use was correlated with other measures, an interesting pattern emerged. Collapsed across both functional and classical groups, there were significant correlations between continued literacy use and the performance

levels on pre-and post-tests. These correlations are summarized in Table 4. Not surprisingly, for both groups, reading comprehension on the follow-up tests six months later was highly correlated with literacy levels at the beginning of the course. All of the pretests and posttests were correlated significantly with the reading comprehension level six months later. These data indicate that the Matthew effect described for children (Stanovich, 1986) can occur with adult literacy participants as well, with participants who have some literacy foundation, showing higher gains. An interesting result is that continuing literacy use six months later was correlated with all three of the pretest scores. Participants who already had a foundation, however small, were more likely to benefit from adult literacy classes, and use literacy more often after the course was over. The functional group, with its lower levels in the beginning showed less sustenance of the literacy skills after six months.

*[Insert Table 4 about here]*

To analyze how different types of participants benefit from FALP, the z-scores on the pretest letter recognition and pre-test decoding were computed using the data from both classical and functional groups. (It is not a problem to compute z-scores based on the data from both classical and functional groups, because the letter knowledge and decoding scores are from pre-instruction data. The data from the classical group were included to get a fuller range of pre-existing levels).

Using the z-scores, it was possible to identify three different profiles of FALP participants: Those with positive z-scores for both letter recognition and decoding (the highest group), those with negative z-scores for both (the lowest group), and those with a negative z-score for decoding, but a positive z-score for letter recognition (the middle group.)

Table 5 summarizes the performance levels of these subgroups on pre-, post- and follow-up tests. There were dramatic differences in the pre-test letter recognition and decoding levels of the three groups, which is not surprising, since those two tasks constituted the grouping criteria. One variable that was not part of the grouping criteria, spelling pretest, also showed that the three groups were quite different. However, it must be noted that even the highest group did not know all their letters and could correctly spell only 2 out of 12 words.

At the end of the course, the highest group showed impressive gains in all measures, except for spelling. The middle group also had good gains, reaching 75-80% levels on the post tests. However, the lowest group was familiar with only 79% of the letters, and performed with 30-50% accuracy on the decoding tasks, and 27% on reading comprehension. Hence, the 90-hour session was not enough for those participants who began with very weak foundations of literacy skills. This pattern also continued six months later. On a different text, reading comprehension level was 65% and 40% for the highest and middle groups, respectively, but only 9% for the lowest group.

The major lesson from these data was that participants come to adult literacy classes with widely varying literacy levels. The better the foundation, the more likely were the courses to help. In addition, we realized that the three-month limitation imposed on us by the Ministry was very unrealistic. Although participants who knew most of the letters benefited greatly, those who had low pre-test levels needed more time to improve their decoding levels. In addition, even the highest group could have used more time to further develop their reading comprehension levels. We have now extended the duration to 120 hours and developed FALP2, an additional three-months of instruction to the graduates of FALP's first level course.

*[Insert Table 5 about here]*

To summarize, program comparisons indicated that at the beginning, the functional and classical groups did not differ on vocabulary and syntactic knowledge, but the functional group had weaker literacy bases. Although its participants started from lower levels, the functional program was significantly more effective in developing word and letter recognition skills, as well as reading comprehension and writing proficiencies. The two programs were further compared in Evaluation Study 2.

## Study 2: A Wider lens:

### Participants:

As summarized in Table 1, there were 612 participants in the second and third cohorts of the functional program. All of these participants were all assessed using several group tests to get a wider perspective on the program. These participants were also compared to 73 randomly-selected participants in the classical program from the same educational centers. Both functional and classical groups included the classes not only in Istanbul as before, but also in the southern city of Mersin. Demographic information on the participants was also collected. As summarized in Table 6, the functional and classical groups had similar birthplaces, reasons for attending the courses as well as level of schooling. Interestingly enough, the functional group had more people who had previously attended literacy classes. Another difference between the two groups is the mean age, marital status and mean number of children. Functional group was younger, had a higher percentage of unmarried participants, and fewer children. In some classes in Mersin almost half of the participants were younger than 18. This pattern was due to the fact that Mersin, being a southern city, is receiving a lot of migration from the southeastern regions of Turkey. This causes the very serious problem of young people not going to school and ending up in adult literacy classes if they get a chance.

Considering only the functional group participants, there were several differences between this group and the first cohort. The first difference was that this group had teachers who had undergone a longer period of teacher training. Instead of an intensive three-day seminar, now the teachers had a week-long training session. (As in the first cohort, there was still the observation and feedback network, with bi-weekly classroom visits.) Another difference was the inclusion of several elementary school teachers as well as volunteers. Including elementary school teachers proved to be a bad decision. These teachers were quite set in their ways of literacy instruction and resisted the program's decoding component which started with letters and sounds rather than full sentences to be memorized. There were also two teachers who refused access to the observers and refused feedback. (The participants from those teachers' classes were not included in the data analysis). This experience made us concentrate our focus on volunteers. [Currently, our teachers are all volunteers recruited from civic organizations. We have also increased the length of the training seminars to 3 weeks.] A final difference between cohort 1 and cohorts 2&3 was that the latter cohorts' curriculum included some numeracy skills, such as counting, place value, simple addition and subtraction. The crucial link between numeracy and literacy became obvious with the first cohort, when even turning to the right page in the book became a problem without some numeracy skills.

### Tasks:

To evaluate cohorts 2 and 3, several group tests were given in the beginning (Test Set 1) and end of the courses (Test Set 2). In order to assess large numbers of participants, these tasks were designed to be quick, easily administrable in groups and easily scorable. (Because these tests are both constructed and administered differently compared to the tests in the first study, we labeled them differently.)

#### Test Set 1:

- (1) Letter recognition: The participants were asked to write on their paper the four letters (a, e, s, r) whose names were read by the teacher. The maximum score was 4.
- (2) Spelling: The teachers read three words and asked the participants to write them down. The spelling data were scored by giving partial credit to correct phonemes. The maximum score was 16. This task had a reliability of .86.
- (3) Decoding: In order to assess decoding, the teacher wrote a word on the board and asked the participants to draw its picture on their test sheet. The three words were easily sketchable--such as skirt, eye--yielding a maximum score of 3. The reliability was .92.



(4) Writing own name: The participants were asked to write their first and last names on the test sheet. Depending on the number and positions of phonemes present, they received scores ranging from 0-10 for both. No reliability coefficient was computed for this task because of obvious item differences.

### Test Set 2

(5) Capitalization: The participants were given five words and asked to underline the ones that should begin with a capital letter. The maximum possible scores was 2, if the person and city names were underlined.

(6) Syllabification: because of the inflected nature of Turkish, syllabification was explicitly taught to facilitate the decoding of long words. The participants were given 6 words (1 with 2 syllables, 2 with 3 syllables, 2 with 4 syllables and 3 with 3 syllables) and asked to syllabify. The maximum possible was 18 points. This task had a reliability of .87.

(7) Reading comprehension: The participants were given a short paragraph and asked 3 multiple choice questions about that paragraph, with the maximum score of 3. The reliability coefficient was .66.

(8) Mathematics: The participants were given 4 questions that involved counting the number of symbols (e.g., asterisks) and writing that number. The maximum possible was 4 points. The reliability coefficient was .83.

(9) Writing own name: The participants were asked to write their first and last names on the test sheet. Depending on the number and positions of phonemes present, they received scores ranging from 0-10 for both.

### Results

The scores on all tests are presented as proportion correct in Table 7 in order to facilitate comparison across tasks. When the data from Test Set 1 were analyzed using t-tests (with Bonferroni-adjusted alpha levels), there were several significant differences between the functional and classical groups. At the beginning of the courses, on three of the four tasks (letter recognition, spelling and decoding) the performance of the functional group was significantly lower compared to the classical group. The two groups were similar on writing their own names, with performance levels of 52 and 58%. To summarize, replicating the pattern in the first evaluation study, the functional group started the courses at a significantly lower level than the classical group.

*[Insert Table 7 about here]*

An interesting pattern was observed when the decoding data were analyzed. In order to assess how accurately the participants could read words, they were asked to read the given word and draw its picture, in a task which almost seems trivial. However, for a lot of participants, sketching a common object proved to be a formidable task. This was another example of how schooling affects our basic skills, such as symbolic representation.

At the final testing session, although they had started from behind, the functional group showed significantly better performance. The first MANCOVA was conducted on scores of the capitalization, syllabification and writing own name tasks (8, 9 and 12, respectively) with letter knowledge in Test 1 as a covariate. There was a significant group difference, Hotellings  $T^2 = .134$ ,  $F(3,322) = 14.43$ . Because the functional program explicitly focuses on syllabification and capitalization, the advantage on those tasks may not be very surprising. However, it is especially noteworthy that the functional group had a performance level of 81% on reading comprehension whereas the classical group was at only 45%, ANCOVA with letter covariate  $F(1,333) = 73.07$ . Likewise math performance was better for the functional group as well,  $F(1,333) = 137.18$ .

### General Discussion



Even though global statistics from communities and nations get the most attention, adult literacy programs cause change one person at a time, first and foremost, at the level of individuals. In this paper, we've described the characteristics of FALP, a new adult literacy program, and evaluated the program by assessing the development of its participants. We will first summarize those two topics and then close by discussing what we have learned from our experiences with the first three cohorts of the program, hoping that it will be useful to adult literacy educators in the non-Western Majority World who face similar issues.

### **Characteristics of FALP:**

One of the major goals of FALP is to create a learning community that involves respect and support. We emphasize that although the adults who come into the program do not know how to read and write, they still have extensive world experiences. Informal observations and interview data indicate that we have succeeded in creating an atmosphere that not only encouraged learning, but also provided a social support system for the participants.

Another important characteristic of FALP is that it is a structured program focusing on the facilitators of literacy that have been identified in the last two decades of educational research. FALP includes explicit training in spelling-sound correspondences and syllabification. In addition, there is a strong focus on critical thinking and analysis of what is read or heard by including activities such as discussion of texts, reactions to newspaper articles, prediction of story endings. There are also some numeracy activities, which started in the second cohort when it became obvious that literacy cannot develop without some help from numeracy. Finally, the interconnectedness of the functional and affective aspects of literacy is emphasized. As literacy skills are used in everyday functioning (e.g., taking a bus without somebody's help), they empower and enhance the self-confidence of the participants.

The backbone of any program is its teachers. FALP teachers are introduced to the program in an intensive seminar. This seminar covers not only the curriculum, but also sociocultural and cognitive bases of literacy as well as communication skills and strategies. The quality of the program is monitored through a continuous observation and feedback system. Instead of providing some training and then leaving the teachers on their own, we start with a relatively short training period, but provide constant support. This also helps create a community of teachers who keep in touch with each other with the help of their team leader. Having a well-structured program and the continuous support system in place enables us to work with volunteers. In addition to reducing the cost of the program, the volunteer system also provides a creative outlet for those individuals who were looking for a way to channel their talents and energies for the development of their society.

### **Evaluations of FALP and what we have learned**

Two evaluation studies, combining depth and breadth, indicated that FALP is effective in establishing some basic literacy skills, especially in participants who were more likely to be marginalized. The cognitive development observed as a result of FALP instruction compared to the classical instruction was documented. However, this study also indicated that a 90-hour course is unrealistic. For participants who already have some basic proficiencies acquired on their own (such as recognizing letters or even recognizing some words), FALP produced immediate and longer-lasting gains. However, 90 hours were not enough to form a literacy base in participants who had very little experience with schooling or literacy. This indicated that course duration should be increased. For example in Nepal, the usual duration of literacy courses is a year. We have now implemented courses that are 4 months long, followed by another three months of Level II courses. In addition to increasing the duration of the program, providing continuous support (such as access to written materials), and encouraging the use of literacy are needed. New graduates need support to continue using literacy and incorporating it into their lives. On a more theoretical level, the patterns discussed above highlight the inadequacy of "eradication" and "threshold" models of adult literacy. Passing a criterion such as being able to decode a certain number of words does not mean the goal is achieved, or the "disease of illiteracy" eradicated. Instead of using a threshold perspective, viewing literacy as

continuous development, shaped by the social contexts and personal needs of participants is more fruitful and realistic (Martin-Jones & Bhatt, 1998).

The evaluation data also indicated that schooling does have a big impact on the cognitive processing of individuals. Individuals in FALP, who had no or limited school experience, were more likely to rely on their own experiences, rather than what was in the text, even when they were discussing the text. Schooling also facilitates symbolic thinking. FALP participants initially had a lot of difficulty in representing concepts with a symbol, e.g., a drawing. The participants were also, as a group, insecure about their cognitive abilities and very quick to belittle their mental capabilities. These insecurities made some practices--such as ability grouping and comparing students with each other--counterproductive. Given these participant characteristics, adult literacy programs cannot succeed by focusing only on reading and writing, but also need to incorporate and model critical thinking, symbolic representation. Most importantly, these classes need to provide the participants with opportunities to gain a voice and express their thoughts and ideas with confidence.

The FALP results also indicated that the initial levels of literacy are very important, as the Matthew effects were observed over and over again, with rich getting richer. These data indicate that it is imperative to support children's literacy development, preventing dropouts as much as possible. If some individuals discontinue their schooling because of factors such as school closings or family constraints, it is necessary to provide them with access to adult education as quickly as possible, while some basic proficiencies are still in place.

Literacy skills bound to remain compartmentalized and treated as schoolwork that is far removed from everyday life if literacy is not owned by the participants. If tasks such as reading the bus signs and the newspaper or finding one's way in a hospital are important for a participant, then a program that enables these to develop, is more likely to be effective. Our original focus on the functionality of literacy was validated through our interviews. Quantitatively, individuals who owned and incorporated literacy activities into their lives were more likely to protect their new and still-fragile proficiencies. As Neuman, Celano, & Fischer (1996) summarized eloquently, "It is the making of this integral connection between literacy learning, personal empowerment and broader social change that can potentially have an effect on bettering people's lives."

## References

- Abadzi, H. (1995). Difficulties of adults in the acquisition of reading skills: A review of evidence. Paper presented at the meetings of the American Educational Research Association.
- Arnone, R.F., & Graff, H.J. (1987). Introduction. In R.F. Arnone & H.J. Graff (Eds). *National literacy campaigns* (pp. 1-28). NY: Plenum Press.
- Auerbach, E. (1996). Adult ESL/literacy from the community to the community: A guidebook for participatory literacy training. Mahwah, NJ: Erlbaum Associates.
- Ballara, M. (1992). *Women and literacy*. London: Zed Books.
- Bruck, M. & Waters, G. (1990). Effects of reading skill on component spelling skills. *Applied Psycholinguistics*, 11, 425-437.
- Comings, J.P. (1995). Literacy retention in adult students in developing countries. *International Journal of Educational Development*, 1, 37-45.
- Cook, T.D., & Campbell, D.T. (1981). Quasi-experimentation: Design and analysis issues in field settings. Chicago, IL: Rand-McNally.
- Durgunoğlu, A.Y., & Oney, B. (1999) A cross-linguistic comparison of phonological awareness and word recognition. *Reading & Writing*, 11, 281-299
- Freire, P. (1970). *Pedagogy of the oppressed*. New York: Seaburn.
- Fuller, B., Edward, J.H.Y., & Gorman, K. (1986). Does rising literacy spark economic growth? Commercial expansion in Mexico. In D.A. Wagner (Ed.). *The future of literacy in a changing world*. (pp. 319-340). Oxford, Pergamon Press.
- Hobcraft, J. (1993). Women's education, child welfare and child survival: A review of the evidence. *Health Transition Review*, 3, 159-175.
- Janicke, E.M. (1981). Massive oral decoding. *Academic Therapy*, 17, 157-161.
- Gillette, A. (1987). The Experimental world literacy program. In R.F. Arnone., & H.J. Graff (pp. 197-217). *National literacy campaigns*. NY: Plenum Press.
- Greaney, V. (1996). *Promoting reading in developing countries*. Newark, DE: International Reading Association.
- Greenberg, D., Ehri, L.C. & Perin, D. (1997). Are word-reading processes the same or different in adult literacy students and third-fifth graders matched for reading level? *Journal of Educational Psychology*, 89, 262-275.
- Lewkowicz, (1987). On the question of teaching decoding skills to older students. *Journal of Reading*, 31, 50-57.
- Lieberman, I.Y. & Shankweiler, D. (1991). Phonology and beginning reading: A tutorial. In L. Rieben & C.A. Perfetti (Eds.). *Learning to read*. Hillsdale, NJ: Erlbaum and Associates.
- Martin-Jones, M. & Bhatt, A. (1998). Literacies in the lives of young Gujarati speakers in Leicester. In A.Y. Durgunoğlu & L. Verhoeven (Eds). *Development of literacy in a multilingual context: A cross-cultural perspective*. (pp. 37-50). Mahwah, NJ: Erlbaum and Associates.
- Moll, L. C. & Greenberg, J. (1990). Creating zones of possibilities: Combining social contexts for instruction. In L.C. Moll (Ed). *Vygotsky and education* (pp. 319-348). Cambridge, UK: Cambridge University Press.
- Neuman, S. Celano, D. & Fischer, R. (1997). The children's literature hour: A social-constructivist approach to family literacy. *Journal of Literacy Research*, 28, 499-524.

- Öney, B., & Durgunoğlu, A.Y. (1997). Beginning to read in Turkish: A phonologically transparent orthography. *Applied Psycholinguistics*, 18, 1-15.
- Öney, B. & Goldman, S. (1984). Decoding and comprehension skills in Turkish and English: Effects of the regularity of grapheme-phoneme correspondences. *Journal of Educational Psychology*, 76, 557-568.
- Perin, D. (1988). Combining schema activation and cooperative learning to promote reading comprehension in adult literacy students. *Journal of Reading*, 32, 54-68.
- Purcell-Gates, V. (1995). *Other people's words*. Cambridge, MA: Harvard University Press.
- Ramdas, L. (1989). Women and literacy: A quest for justice. *Prospects*, 19, 519-530.
- Ramdas, L. (1990). Women and the literacy problem: An analysis. *Convergence*, 23, 37-48.
- Rogers, A. (1999). Improving the quality of adult literacy programmes in developing countries: the 'real literacies' approach. *International Journal of Educational Development*, 19, 219-234.
- Snow, C.E., Barnes, W., Chandler, J., Goodman, I., & Hemphill, L. (1991). *Unfulfilled expectations*. Cambridge, MA: Harvard University Press.
- Stanovich, K.E. (1982). Individual differences in the cognitive processes of reading II: Text processes. *Journal of Learning Disabilities*, 15, 449-554.
- Stanovich, K.E. (1986). Matthew effects in reading. *Reading Research Quarterly*, 21, 360-406.
- Street, B. V.(1986). Literacy and social change: The significance of social context in the development of literacy programmes. In D.A. Wagner (Ed.). *The future of literacy in a*
- Street, B. V.(1995). *Social literacies : critical approaches to literacy in development, ethnography, and education*. London : Longman.
- Wagner, D.A. (1986). Literacy futures: Five common problems from industrialized and developing countries. In D.A. Wagner (Ed.). *The future of literacy in a changing world*. (pp. 319-340). Oxford, Pergamon Press.
- Wagner, R.K., Torgeson, J.K., & Rashotte, C.A. (1994). The development of reading-related phonological abilities: New evidence of bi-directional causality from a latent variable longitudinal study. *Developmental Psychology*, 30, 73-87.

**Author notes**

We thank Aysen Özyegin and the Mother Child Education Foundation for their continuous support, Fatma Zengin Dağdır and Meltem Cantürk for their help in data collection and analyses and the teachers of Cohorts 1-3 for their interest, hard work and continuous feedback. Most of all, we owe a debt of gratitude for the participants of the adult literacy classes whose courage and openness made this program and research possible. Portions of this study were presented at the American Educational Research Association meetings, April, 1996, New York City.

Correspondence concerning this article should be addressed to A.Y. Durgunoğlu, Department of Psychology, University of Minnesota Duluth, Duluth, MN 55812 .

Table 1

Number of courses and participants in Evaluation Study 1 (Cohort 1) and Study 2 (Cohorts 2 & 3)

		FUNCTIONAL			CLASSICAL		
		Istanbul	Mersin	Total	Istanbul	Mersin	Total
COHORT 1	Participants	59	---	59	40	---	40
	Classes	5	---	5	5	---	
COHORTS 2 and 3	Participants	400	212	612	57	16	73
	Classes	15	12	27	6	1	7

**Table 2** The characteristics of participants in Evaluation Study 1 (Cohort 1)

	<b>functional</b>	<b>classical</b>
age	38.5 (7.8)	43.46 (10.4)
years in Istanbul	20.96 (10.0)	17.89 (10.9)
percent housewife	98%	97.5%
percent married	91.5%	89%
number of children	3.31	3.07



**Table 3**

The means (and standard deviations) on pre-, post- and follow-up tests of the first evaluation study

Test (maximum points)	Functional (n = 60)	Classical (n = 40)	*	sig diff? t-value
<b>PRE-TESTS</b>				
(1) Letter recognition (58)	39 (18.3)	52 (9.4)		-3.98*
(2) Decoding (12)	4.85 (4.8)	8.05 (4.2)		-3.34*
(3) Spelling (12)	1.08 (2.1)	2.28 (2.6)		-3.16
(4) Syntax (10)	6.70 (2.6)	6.83 (2.6)		-0.23
(5) Vocabulary synonyms (10)	4.65 (1.9)	5.08 (1.8)		-1.10
antonyms (10)	5.01 (1.9)	5.56 (2.2)		-1.27
(6) Listening comp. (12)	3.02 (2.0)	3.52 (2.4)		-1.16
<b>POST-TESTS</b>				
(7) Letter recognition (58)	51.3 (7.5)	52 (7.6)		
(8) Decoding (fast): (15)	9.0 (4.9)	9.15 (4.0)		
(9) Decoding (familiar) (12):	9.0 (3.5)	6.63 (3.6)		
(10) Decoding (unfamiliar) (12)	7.85 (3.5)	5.03 (33.5)		
(11) Spelling (9)	3.07 (2.5)	2.79 (2.4)		

(12) Vocabulary		
synonyms (10)	5.25 (2.0)	5.90 (2.0)
antonyms (10)	5.67 (2.0)	6.08 (2.0)
(13) Reading comp. (6)	2.78 (2.0)	1.71 (2.0)
.		
(14) Critical thinking		
categorization (4)	2.76 (1.1)	2.90 (0.9)
ordering (4)	2.32 (0.9)	2.23 (1.2)
main idea (3)	1.86 (0.6)	1.40 (0.8)
<b>FOLLOW-UP TESTS</b>		
(15) Decoding (12)	8.54	9.35
(16) Spelling (64)	47.56	47.26
(17) Sentence dictation (71)	33.0 (22.0)	36.4 (19.0)
(18) Reading comp. (17)	6.27	8.67

Table 4

The correlations between literacy measures for functional and classical groups combined

	pre-tests			post-tests		
	lower case letters	upper case letters	decoding	letter rgn	decoding	reading comp
Follow-up data						
Continued use of literacy	.37*	.41*	.35*	.30*	.14	.22
Reading comprehension	.51*	.46*	.53*	.46*	.48*	.38*
Decoding	.46*	.43*	.31*	.41	.46*	.56*
Spelling	.53**	.55*	.47*	.60*	.45*	.41*
Sentence writing	.39**	.41*	.35*	.49*	.55*	.41*

Table 5

The performance of the three profiles (based on pretest performance) in the functional group

		Highest	Middle	Lowest
<b>Test (maximum score)</b>		<b>n = 22</b>	<b>n = 8</b>	<b>n = 19</b>
<b>pre-tests</b>				
	letter recognition <sup>a</sup> (58)	53.29 (3.0)	49.00 (6.5)	19.43 (13.6)
	decoding <sup>a</sup> (12)	10.08 (1.7)	3.00 (2.2)	0 (0)
	spelling (12)	2.04 (2.6)	1.18 (2.0)	0.13 (0.6)
<b>post-tests</b>				
	letter recognition (58)	54.96 (4.1)	53.45 (4.0)	45.78 (8.6)
	fast decode (15)	12.00 (2.2)	10.64 (2.5)	4.74 (4.9)
	decode familiar (12)	9.91 (2.3)	6.43 (4.0)	6.43 (4.0)
	decode unfamiliar (12)	9.75 (2.4)	9.36 (2.5)	5.30 (3.4)
	spelling (9)	4.38 (2.5)	2.73 (1.8)	1.76 (2.1)
	reading comprehension (6)	4.13 (1.8)	2.55 (1.7)	1.57 (1.6)
<b>follow-up tests</b>				
	spelling (64)	58.82 (16.1)	51.88 (10.1)	35.38 (25.1)
	sentence write (71)	47.45 (17.1)	37.13 (9.3)	16.90 (17.3)
	reading comprehension (17)	11.23 (3.0)	6.63 (2.2)	1.52 (2.1)
<b>age</b>		39.41 (7.1)	37.75 (10.9)	38.81 (7.5)
	continuing use of literacy (8)	2.14 (1.2)	1.38 (1.7)	1.14 (1.2)

<sup>a</sup>The z-scores of these two tests were used to determine the three profiles of participants

Table 6

Background information on Cohorts 2 and 3 and their comparison group

	Functional	Classical
<b>Mean age</b>	34.5	37.5
<b>Mean number of children</b>	2.87	3.63
<b>Marital status</b>		
married	%76	%93
unmarried	%20	%3
widowed	%4	%4
<b>Birthplace</b>		
village	%80	%78
town	%11	%10
small city	%2	%4
big city	%8	%4
abroad		%4
<b>Reasons for attending</b>		
to acquire literacy	%73	%41
make life easier	%14	%27
other	%13	%32
<b>Previous schooling</b>		
none	%91	%94
15 days	%6	%4
other	%3	%1.5
<b>Occupation</b>		
housewife	%94	%94
other	%6	%6
<b>Attended other adult literacy courses?</b>		
no	%76	%89
yes, < 15 days	%18	%5.5
yes, > 15 days	%6	%5.5

**Table 7**, Results of Evaluation Study 2 (Cohorts 2 & 3)

		Group				t-test	sig. diff?
		Functional		Classical			
Set	Test	mean proportion (sd)	number of participants	mean proportion (sd)	number of participants		
I	Letter recognition	.81 (0.3)	521	.95 (0.2)	68	-3.68	*
I	Spelling	.37 (0.4)	521	.59 (0.3)	68	-4.72	*
I	Writing name	.52 (0.4)	509	.58 (0.4)	68	-1.00	--
I	Decoding	.44 (0.5)	521	.63 (0.4)	68	-3.75	*
II	Capitalization	.73 (0.3)	309	.47 (0.4)	72		
II	Syllabification	.68 (0.3)	309	.46 (0.3)	72		
II	Reading comprehension	.81 (0.3)	309	.45 (0.4)	72		
II	Math	.92 (0.2)	309	.53 (0.4)	72		
II	Write own name	.94 (0.1)	313	.88 (0.2)	72		