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LEARNING TO READ IN PORTUGUESE IN EAST TIMOR: STRATEGIES OF ADULT LITERACY LEARNERS

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1 Introduction

In an earlier volume of LESLLA proceedings, reference was made to the enormous amount of studies on how children learn to read and write, while at the same time studies on how adults who never attended school get access to the meaning of written language are remarkably scarce (van de Craats, Kurvers & Young-Scholten, 2006). And although interest in the acquisition and uses of literacy by unschooled adults is growing, there still are hardly any studies that focus on the first period in which adults have to learn the principle behind the written code that is used in their culture. Moreover, studies on second language literacy acquisition of unschooled adults are even scarcer (Wagner, Venezky & Street, 1999, Wagner, 2004), although it is not uncommon that adult literacy learners all over the world only get access to writing in a second or even third language.

This paper will focus on the results of a pilot study carried out in 2007 in two adult literacy classrooms in East Timor, a country with illiteracy rates of about 50% that after independence in 2002 started to develop and implement new national adult literacy programs and teacher training. The main focus of the pilot was on word recognition skills and the reading strategies of adults who are learning to read and write in Portuguese as a second or third language in relation to some differences in methodologies and classroom practices that teachers were putting into play.

Word recognition is assumed to be one of the basic skills to be developed by beginning readers (see Kurvers, 2007 for an overview) and can be defined as determining the identification of a written word, i.e. the pronunciation and meaning of a word encountered in print or writing. Kurvers argued that two models are in use to explain the learning processes of beginning readers: on the one hand there are stage models of beginning reading, and on the other non-stage models (Juel, 1991; Chall, 1999). Her review of studies revealed much evidence in favour of a sequence of rather uniform stages in reading development: a first stage of direct-word recognition on the basis of either visual or context-bound cues, a second stage of indirectly mediated word-recognition through the use of graphic instead of visual cues (grapheme-phoneme correspondences) and another, third stage of direct word-recognition but now based on automatisation of indirect word-recognition (see section 3 for more details). These stage models of beginning reading, however, were based on research with young children during the first year of formal reading instruction in their native language. Since all stage models are crucially based on the mediation of spoken language (of which neither the sounds nor the word meanings might be known), it made sense to investigate whether these stage models could also explain the development of word recognition skills of adults learning to read and write in a second language. The results of Kurvers revealed they do. Kurvers, however, investigated adult first time readers in a highly developed western country who learned to read and write with the help of well-educated literacy teachers trained and experienced in teaching the alphabetical principle to new learners. It is not self-evident that adult literacy learning and teaching in a developing country such as East Timor with different traditions in learning and teaching would show the same learning processes for adult beginning readers. The aim of the pilot study therefore was to see whether the same types of learning strategies and progress in word recognition would be apparent in East Timor. The main research question was how these adults develop word recognition skills in Portuguese and

whether the stages Kurvers found would also be found in East Timor. A secondary research question was related to some educational features: would it matter whether teachers used the newly developed materials that tried to combine a phonics approach with contents derived from relevant social practices of the adults?

In the next section, we first present some background information on East Timor: the country, the sociolinguistic landscape and a state of the art on adult literacy. In section three, the pilot study is introduced and in section four, the results are presented. The paper ends with some conclusions.

2 Background: East Timor history, languages and literacy

The Democratic Republic of East Timor is a new nation in Southeast Asia, located 600 kilometres northwest of Darwin, Australia. It comprises the eastern half of the island of Timor, the enclave Oecussi on the northwestern side of the island within Indonesian West Timor and the nearby smaller islands of Jaco and Atauro. From the sixteenth century until 1975, East Timor was a colony of Portugal. Between 1975 and 1999 it was occupied by Indonesia. From 1999 until 2002 the United Nations formed an interim government and in May 2002 it became independent. Of its population of around 1 million, three quarters live in the mountainous rural areas of the island (UNDP 2006). Although steadily working on its development, East Timor is still the poorest country in Asia.[1]

Today's language situation reflects East Timor's history. When it became independent in May 2002, it was decided that the country would have two official languages: Portuguese and Tetum (Constitution 2002[2]). Tetum and fifteen other national languages were 'to be valued and developed by the state'. English and Bahasa Indonesia were accepted as working languages within civil service side by side with official languages as long as deemed necessary.[3]

The 16 national languages of East Timor can be divided in two groups (G. Hull, 2003): the Austronesian group (Tetum, Habun, Galoli, Atauran, Kawaimina, Welaun, Idalaka, Mambai, Kemak, Tokodede, Baikenu, Makuva) and the Papuan group (Bunak, Makasai, Makalero, Fataluku). Except for Tetum, most of these languages have only been spoken languages. Recently, East Timor's National Institute of Linguistics (INL) has developed dictionaries and grammars for some of these languages.[4] Tetum is widely used as a lingua franca and a written language, and many people in at least 11 of the 13 districts of the country speak and understand it to some extent. Besides the national languages and local dialects, the use of Portuguese is growing. Older generations who went to school in Portuguese times (until 1975) still speak Portuguese, and since it became one of the two official languages of the country in 2002, many young people are learning Portuguese as well. During the 24 years of Indonesian occupation however, it was forbidden to use Portuguese, and East Timorese had to speak and write Bahasa Indonesia in school and many other official domains. From 1999 until 2002, when the United Nations formed an interim government, English started to be used in East Timor as a working language.

This large variety of languages leads to a situation where most East Timorese are using several languages in their daily lives (Van Engelenhoven, 2006), depending on the domain in which the interactions take place. They speak a national language or local dialect with their families and in their communities. In school and in their studies they are supposed to only use Tetum and Portuguese. But for the whole generation that

[1] Nr. 150 of 177 countries ranked in the Human Development Index, as included in the Human Development Report 2007-2008 (UNDP 2007).

[2] Constitution of the Democratic Republic of East Timor, Section 13, Official languages and national languages.

[3] Constitution of the Democratic Republic of East Timor, Section 159, Working languages.

[4] In the Government Decree No 1/2004 of 14 April, "Orthographic standard of the Tetum language", Article 4 describes the "Role of the National Institute of Linguistics (INL): 1. The INL is the scientific custodian of Official Tetum. 2. The INL must develop the scientific activities necessary to the preservation and protection of the other national languages devising orthographical stanards for each of them. 3. (…) etc.

grew up and went to school in Indonesian times, Bahasa Indonesia is easier and many still use it a lot. Many schoolteachers also still use a lot of Bahasa Indonesia, and they often use local languages to explain lesson content that is presented in Tetum or Portuguese. In official situations and in contact with governmental institutions, Tetum and Portuguese are the languages to be used, but also in those situations many conversations, discussions and explanations take place in (or have to be translated in) national languages or local dialects. To communicate with UN departments or international aid and development organisations many East Timorese learn and use English.

Literacy rates in East Timor are relatively low: only 50% of the adult population is estimated to be literate (UNDP 2006). The percentage is lower in the rural areas, and, as usual, there are more women among the illiterates.

Since 2001 the government has been providing national adult literacy programs in Tetum and Portuguese. Also a range of NGO's have been providing adult literacy programs in recent years, mostly in Tetum and Portuguese as well. Since the first language of most East Timorese is one of the national languages or a local dialect, learning to read and write in East Timor hardly ever takes place in a first language. Attending a first language adult literacy course is only possible for the small part of the population that speaks Tetum as a first language, and even then there will be a difference between the official Tetum standard[5] that is being used by the state and the variety that participants have learned in their own village. For many native speakers of other national languages or dialects, a Tetum literacy course still is the best option because they mostly understand and speak Tetum to some extent and not many of them are proficient in Portuguese.[6]

Portuguese is sometimes a second (and for many East Timorese a third or fourth) language. For the small percentage of the East Timorese that speak and understand Portuguese, literacy courses in Portuguese seem to be a good option. Sometimes East Timorese people who do not speak Portuguese still want to become literate in Portuguese because of its (perceived) higher status. This occurs in many multilingual situations in which languages have a different status, or are perceived as more or less useful for people's futures (Coulmas, 1984, Asfaha et al, 2006).

Is Portuguese more difficult to learn to read and write than Tetum? Many people in East Timor think so, even without taking into consideration the already mentioned fact that Tetum is more widely spoken than Portuguese. Portuguese orthography is thought to be more difficult than Tetum, although there is little research on this. In Europe however, some comparative research is available. Seymour (2005) compared several European languages and orthographies on syllabic complexity and orthographic depth. Syllabic complexity refers to the amount of different syllables a language can have, for example only V, CV, or CVC or many combinations of consonant clusters and vowels that can be a syllable, as in English. Orthographic depth basically refers to the correspondence between phonemes in spoken language and graphemes in writing. Orthographies are shallow when there are hardly any exceptions to the basic rule of one phoneme, one grapheme (such as Finnish) and deep when one phoneme can be represented by several graphemes, or one grapheme can be pronounced in several ways (such as English). According to Seymour (2005), Portuguese is classified as having a rather simple syllable structure, simpler than, for example, German, Dutch, Danish or English, with its orthography deeper than, for example, Greek, Italian, Spanish and German, but less deep than, for example, French, Danish and English. Seymour expects the rate and efficiency of literacy acquisition to differ between languages in the

[5] Official Tetum, as developed by the National Institute of Linguistics of East Timor according to the April 2004 Government Decree, is based on Tetum-Praça, also referred to as Dili Tetum, with Tetum Terik and Portuguese as source languages for loanwords that should conform to the rules of the orthography of Official Tetum (Taylor-Leech, 2007).

[6] According to UNDP, in 2005 less than 5% of the East Timorese spoke Portuguese, as stated in the *Timor-Leste Human Development Report 2006: The path out of poverty; integrated rural development*, page 8, box 1.2, published January 2006.

ranking from simple to complex syllable structures and from shallow to deep orthographies. For the first year of reading, this expectation has been partly confirmed: children learned to read much faster in the more consistent Finnish orthography than in the deeper and less consistent English orthography (see also Ziegler & Goswami 2006).

If we place Tetum in Seymour's classification, its position would show an even simpler syllable structure than Portuguese: syllables with consonant clusters such as *for* 'flower' in Portuguese, hardly exist in Tetum, except for loan words. In addition, the orthography is considered shallower and more consistent. In East Timor, teaching reading to adults (like teaching reading to children) has for a long time been guided by what is called the alphabet methodology (Gray, 1969). Generally speaking, this is a teaching practice in which beginning readers start with learning the alphabet by heart, most often the names of the letters (a, bee, cee), and classroom practices with much chanting (collectively repeating after the teacher) and a low rate of usage of exercise books and reading materials.

In recent years, other methodologies and different didactic approaches have been introduced. In 2004, the Ministry of Education of East Timor, together with UNDP and UNICEF,[7] developed contextualized[8] literacy materials for one year of adult literacy teaching in both Portuguese and Tetum. These materials[9] have been developed in cooperation with a large number of local stakeholders. The teaching methodology combines a contextually functional and meaningful content (things that matter for adult life in East Timor) with a phonics-based methodology for learning the principles of the alphabetic writing system (for more details see Boon, 2007). The materials for the beginners courses in Tetum and Portuguese were piloted in 2006, revised and printed in 2007, and were implemented nationally in January 2008. The advanced level materials field-tested and revised in 2007, will be implemented nationally in the second half of 2008. Apart from the almost 300 government groups, there is a number of local NGOs using the new manuals in their own literacy programs in various districts in the country.

Besides implementing this new national adult literacy program, the Ministry of Education rolled out a national literacy campaign using the Cuban program *Sim eu posso*.[10] *Sim eu posso* provides the learner with three months of basic literacy training in Portuguese. The materials were used in Brazil before, and are now being adapted to the East Timorese reality. A Tetum version is being developed as well.

Finally, some international and national or local NGOs have developed their own literacy materials; OXFAM, for example, has developed some manuals in Tetum and Tokodede, one of the national languages, in collaboration with Tokodede-speaking communities. The local NGO GFFTL has also developed its own literacy manuals, linked to income-generating activities. All in all, the availability of literacy programs and materials in East Timor is gradually becoming greater and more varied.

3 Pilot on learning to read in Portuguese as a second language by adult literacy learners

To obtain more information on the learning of Portuguese as a second (third/fourth) language by adult literacy learners, a small pilot was carried out in 2007. The pilot focussed on learning to read in Portuguese as a second language in two adult literacy groups in East Timor. Data were collected in April and August 2007. A few of the questions that were asked in the research pilot will be highlighted in this chapter, namely, How well developed are word recognition skills in Portuguese as a second language after almost a year of literacy instruction two times a week? What word

[7] (and with support from USAID)
[8] The term 'contextualized' refers to: reflecting East Timorese culture and daily life.
[9] Literacy manuals for beginners in Tetum called *Hakat ba Oin* and in Portuguese called *Passo em Frente* (both meaning 'Step Forward' in English). Advanced level literacy manuals in Tetum called *Iha Dalan* and in Portuguese called *A Caminho* (both meaning 'On the Way' in English).
[10] This program, originally named *Yo sí puedo* in Spanish ('Yes I can' in English), was developed in Cuba and has already been used in mass literacy campaigns in many countries.

recognition strategies do East Timorese adults use while learning to read in Portuguese as a second language, and are these strategies related to word recognition skills? Do the outcomes reveal that adult beginning reading in a second language is a process that can be described in terms of reading stages? And what problems do these learners encounter while learning to read and write in Portuguese? (See below for a more detailed presentation) This section first describes this pilot's position in a larger research project on adult literacy in East Timor. Secondly, it explains word recognition issues and research already carried out. Thirdly, it provides information on the design of the pilot, its participants, instruments and analysis.

3.1 The pilot study's position in a larger research project

The pilot described in this paper is part of a larger research project on adult literacy in East Timor which was developed in 2006-2007. Its main aim is to investigate the historical and contemporary aspects of literacy acquisition and use in multilingual East Timor. The research project consists of an empirical study in two parts: (a) a multi-site sociolinguistic-ethnographic case study investigating the values and uses of languages and literacy, instructional practices and learning in the act of becoming and being literate in Portuguese and Tetum; and (b) an evaluation study assessing the influence of language choices, teaching methodology and orthographic transparency on the effectiveness of adult literacy programs in these two languages. Within this research project, adult literacy acquisition in East Timor is investigated from two different perspectives: a sociolinguistic or social-cultural perspective and a psycholinguistic perspective. From a *socio-cultural* or sociolinguistic perspective literacy can be conceptualised as social practice, embedded in historically situated and continuously changing larger social, religious and cultural traditions (Barton, 2001). Recent studies in this tradition describe literacy as deriving meaning from the context as much as from the act of reading and writing itself (Banda, 2003; Street, 2001). Verhoeven and Snow (2001) and Martin-Jones and Jones (2000) show that different meanings of literacy may be even more apparent in multilingual societies with multiple literacy practices and traditions. Herbert and Robinson (2001) deal with the interest in literacy practices in multilingual African and Asian countries. These studies show the interplay of literacy in languages with local and (inter)national status (Fasold, 1997; Herbert and Robinson, 2001; Prinsloo and Breier, 1996). A recent literacy study in Eritrea also shows that literacy practices and values are influenced by ethnic, religious and linguistic affiliations, and at the same time lead to diversified literacy teaching and acquisition practices in education (Asfaha et al., 2006).

Central to a *psycholinguistic* perspective on beginning literacy is that in order to get access to the meaning of print, a literacy learner must learn the code that is used in his/her culture to represent speech by visual symbols. A first step in becoming literate therefore is acquiring the system of correspondences between visual symbols and units of sounds (Byrne, 1998; Ziegler and Goswami, 2006). For a literacy learner, mastery of this system allows access to most of the words that belong to his/her vocabulary prior to learning to read. The actual process of learning to read, however, is complicated by factors such as familiarity of the (first or second) language, inconsistency of the sound-to-symbol mapping, the inventory of phonemes and the syllabic make-up of a language (Kurvers, 2002; Ziegler and Goswami, 2006), differences between adult and child characteristics of literacy acquisition in a second language (Van de Craats et al., 2006), and the fact that, although literacy acquisition might be much easier in the mother tongue, the mother tongue is not always appreciated for reasons of perceived status or economic profit (Coulmas, 1984). The focus in this paper is on the psycholinguistic aspects that are required for the first steps on the highroad to adult literacy: the word recognition strategies and skills of beginning readers in Portuguese as a second language.

3.2 Word recognition

As already discussed in the introduction, for a long time reading researchers have been investigating the process by which beginning readers acquire the ability to identify a written word, i.e. word recognition. Most studies have been conducted in the context of learning to read and write in a Roman alphabetical script, and most of the fundamental theory-building research has focused on children learning to read and write in their native language (Ehri & Wilce, 1985; Juel, 1991; Chall, 1999; Wagner 1999; Van de Craats, Kurvers & Young-Scholten 2006). There is ample evidence that children go through several stages during the process of learning to read (Adams 1990; Juel, 1991). Many models of beginning reading development propose the following stages of word recognition (Juel 1991; Kurvers 2007):

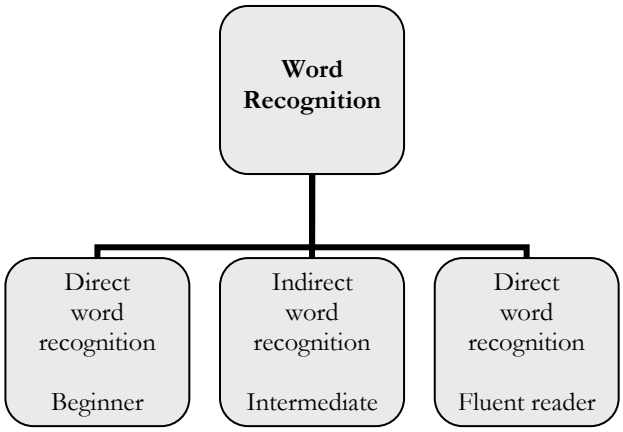

Figure 1: Word recognition stages

According to Juel (1991), word recognition during the first stage is direct and takes place on the basis of either visual or context bound cues. At this so-called logographic stage, beginning readers recognize a written word immediately on the basis of non-systematic visual cues such as length, a salient letter or an illustration.[11] During the second stage, the alphabetic stage, word recognition takes place indirectly, through the use of graphic instead of general visual cues. Beginning readers learn the alphabetic principle, i.e. they learn to decode a written word letter by letter and blend the successive pronunciations. The third stage, the orthographic stage, shows direct word recognition again, but is now based on automatisation of indirect word recognition. Kurvers (2007) investigated the beginning reading of illiterate adult migrants in the Netherlands who learned to read and write in Dutch as a second language. She was interested to see whether the models used to explain the beginning reading of young children would also be applicable to adults and to beginning reading in a second language. Analysing reactions on word-reading tasks, Kurvers classified the following strategies for word recognition:

- Visual recognition/guessing based on visual or context cues;
- Letter naming: responding with the names or the sounds of individual letters, without any blending;
- Decoding letter by letter: sounding out letters and blending;
- Partial decoding: decoding by groups of letters;

[11] The term visual cues is used here to illustrate all kinds of visual features of written words, such as length, place on the page, lay-out or a specific visual feature of individual letters; graphic cues is used whenever the reader systematically uses the information that is covered by the order of graphemes.

- Direct word recognition: a word is read without any spelling out.

Kurvers' study revealed that adults who used the latter strategies were more successful in word recognition than students who mainly used the first strategies - outcomes that more or less confirmed the applicability of the word recognition model presented before. Because these models and strategies were mainly investigated in the context of western education, it is worth finding out whether adults in East Timor also use these strategies and whether their reading development points to the same stages in developing word recognition skills.

3.3 Design of the pilot

Participants
In total 21 East Timorese literacy students participated in the pilot of 2007. All of them were adults, 15 women and 6 men, and they had never attended any school before. They were students from two different literacy groups, one in Dili and one on the small island of Atauro. The Dili-group (group 1) consisted of 14 female students with 6 different mother tongues: Mambae (5x), Tetum (3x), Kemak (2x), Fataluku (2x), Tokodede (1x) and Makasai (1x). The students attended, with some variation due to starting date and presence, the literacy course for almost a year. The exact ages of the students were not known, but all of them were adults (18 years or older). The teacher sometimes used part of the old, non-contextualized literacy manuals[12] and mostly no literacy materials at all. The Atauro-group consisted of 7 students, 6 male and 1 female. The mother tongues of these students were Rasua (4x) and Raclungu (3x). This group attended the literacy course during 11 months and used the newly developed, contextualized materials *Passo em Frente*, Timorese literacy manuals for beginners in Portuguese. Six students were between 43 and 55 years old, the seventh was 28 years old.

3.3.1 Instruments

Two research instruments were used during the pilot: a word reading task and a writing task. The *word reading task* consisted of a list of 60 Portuguese words, starting with short monosyllabic words and ending with words consisting of five syllables. Fifty percent of the words were taken from the recently developed and rather widely used series of literacy manuals[13] (although words used like 'fish' (*peixe*) or 'rice' (*arroz*) were very common words in East Timor and probably known by many literacy learners); the other fifty percent were comparable in linguistic structure and did not occur in those manuals, but were also common words like 'good' (*bom*) or 'school' (*escola*). The participants were asked to read the words out loud and their reading was audio-recorded. The word recognition score was the number of correctly read words in 3 minutes. The *writing task* consisted of a basic form to fill out. Participants were asked to write their name, birth date, name of their village/town and district, their first and second language and their signature. They were also asked to answer one open-ended question about why they wanted to learn to read and write.

3.3.2 Analysis

The audio recordings of the *reading task* responses were transcribed and coded twice, first as correct or incorrect (if incorrect, errors made were noted) and secondly on the word recognition strategies the students were using. It turned out that the list of word recognition strategies that was presented in the previous section basically could be

[12] The literacy manuals *Aprender Ler, Escrever e Contar, Língua Portuguesa, Volume 1 & 2* (Ministry of Education of East Timor, National Directorate of Non-Formal Education, 2001)
[13] The literacy manuals *Passo em Frente; ler e escrever para adultos* (Ministry of Education of East Timor, National Directorate of Non-Formal Education, version 2006).

applied, with two exceptions. While observing and later analysing the reading recordings of the pilot, it was found that the first strategy in Kurvers' list, visual recognition, was not used at all by the participants in this pilot. Instead, another strategy was found that had to be added to the list: random letter mentioning.[14] Participants who applied this strategy started reciting the letters of the alphabet (a-b-c-d) and seemed to hope that by coincidence there might be a match between what they said and what was pointed at on the paper (the words ranked from mono- to multisyllabic). This is different from the letter-naming strategy in Kurvers' list of strategies in which the letter naming matched with the letters of the written word.
Summarizing, the categories that could be detected were the following:

1 Random letter reciting (for example: saying the letters a-b-c while at the same time pointing at the letters b-o-m of the word *bom* 'good');
2 Letter naming without blending: responding with the names or the sounds of individual letters, without any blending (for example: saying the letter names m-a-r without blending these three sounds to make the word *mar* 'sea');
3 Decoding by letters: sounding out letters and blending (for example: first saying the letters p-a-i and then the word *pai* 'father');
4 Decoding by clusters: decoding by groups of letters (for example: first saying the syllables 'tar' and 'de' and then the complete word *tarde* 'late');
5 Direct word recognition: a word is read without any spelling out (for example: saying the word *nariz* 'nose' in one burst of effort).

The *writing task* resulted in a number of filled-out forms that were analysed first on correctly or incorrectly written answers (if incorrectly, it was noted which errors were made), and additionally on factors such as motor skills and fluency, use of spaces between words, use of capitals or lower-case and accents. The latter will not be presented here.

4 Results

Table 1 presents the results on the word reading tests of the pilot in the two groups, showing group statistics on reading scores (t-test for independent samples).

Table 1: Means, standard deviations and t-values of word reading scores by group

	Group:	Mean:	Std. Deviation	T
Total number of words read correctly	1	4,71	8,96	
in 3 minutes	2	42,71	17,67	-5,36**
Total correct first twenty words	1	3,36	6,21	
	2	19,14	1,46	-9,02**

** $p<0.01$

Table 1 first shows reading scores of group 1 and 2 - the number of words correctly read in three minutes. Major differences were found between the two groups in word reading scores. Group 1 on average reads five words correctly (mean 4,71, sd 8,96); group 2 on average reads 43 words correctly (mean 42,71, sd 17,67). This difference is significant ($p<.01$). Group 2 not only reads many more words correctly, but also with much more speed. Because it was necessary to limit the frequency analysis of the uses of different word recognition strategies (see Table 3) to the first twenty words (hardly anyone in the first group read more than twenty words), the average number correct of the first twenty of the list is presented as well. This reveals the same difference between

[14] The term *random* refers to the fact that there was no relation between the letters mentioned and the letters in the written words.

the groups: Group 2 reads on average nearly all the words correctly, while the average of group 1 is around three words (p<.01). It should be added immediately, as was already mentioned in section 3.3, that half of the words in the word reading test originated from the reading materials group 2 was using. To test whether this significant difference in word reading scores between the two groups was caused by the words that group 2 might have been practising, we computed two different totals out of the first 16 words (eight method-related words and eight words that did not originate from the reading materials the groups were using). Table 2 presents the outcomes. In both cases, group 2 on average read nearly all of the words correctly, group 1 on average between one and two words. For both measures the totals of group 2 are significantly higher than for group 1 (t=-9.75, p=0.000 and t=-9.43, p=0.000 respectively for method bound words and other words).

Table 2: Means and standard deviations method and non-method bound words by group

	Group	N	Mean	SD	T
Total method words	1	14	1,43	2,41	-9.75**
	2	7	7,86	,378	
Total non-method words	1	14	1,21	2,49	-9.43**
	2	7	7,71	,49	

** p=.000

Because some strategies are likely to be more efficient than others, it was observed which strategy was used how often while learners read the first 20 words (see Table 3).

Table 3: Frequencies of word reading strategies by group

Word reading strategies	Group:	Mean:	Std. Deviation	T
1. Random reaction	1	10,00	10,38	
	2	0,00	0,00	2,52*
2. Letter naming without blending	1	3,14	5,60	
	2	0,00	0.00	2,10*
3. Decoding by letters	1	4,64	7,37	
	2	0,00	0,00	2,35*
4. Decoding by clusters	1	0,86	3,21	
	2	1,43	2,15	-0,43
5. Direct word recognition	1	0,00	0,00	
	2	18,57	2,15	-22,86**
Total correct out of twenty	1	3,36	6,21	
	2	19,14	1,46	-9,02**

* p<0.05, ** p<0.01

Group 1, which had weak reading scores (see Table 1), used more strategies that tend to occur early in the "learning to read" process. Group 2, which had much higher reading scores, used strategies that tend to occur later in the "learning to read" process. Except for strategy four (the partly automatized strategy of decoding by letter clusters), all differences between the two groups are significant (p<.01 for direct word recognition and p<.05 for all other strategies).

To investigate whether reading scores were related to the word recognition strategies the students were using, frequencies of the different strategies within and between groups were calculated and compared with the reading scores. Pearson correlations between the frequencies of word recognition strategy and the word reading score revealed significant correlations: a strong and significant negative correlation

between the frequency of random letter naming (strategy 1) and reading score (r=-0.68, p=0.001), a strong and significant positive correlation between frequency of direct word recognition (strategy 5) and reading score (r=0.84, p=0.000), while the other correlations between reading score and strategy use were in between (r=-0.45 for letter naming, r=0.14 for decoding by letters and r=0.29 for decoding by letters). This seems to support the claim that beginning readers (also in a second language) must acquire the alphabetic principle (Byrne, 1998), and that they acquire this gradually. We also looked at this relationship for each of the students. Table 4 presents an overview of five of the students, together with the word reading score (see appendix 1 for a complete overview).

Table 4: Main strategy-use and reading scores of five students

Student:	Main strategy-use:	Reading score:
1. Domingas (group 1)	1 (random reaction)	0
8. Amelia (group 1)	2 and 3 (letter naming and decoding by letters)	2
14. Madalena F (group 2)	3 and 4 (decoding by letters and clusters)	14
19. João (group 2)	4 and 5 (decoding by clusters and direct word recognition)	16
18. Mateus (group 2)	Only 5 (direct word recognition)	20

The examples in Table 4 show that, in general, learners with lower word reading scores used the 'lower ranked' strategies, while learners with higher scores mainly used the 'higher ranked' strategies. Apparently learning to read in a second language takes place in phases (although no longitudinal research had yet been conducted). This does not necessarily mean that the students of group 2 will use the recently acquired literacy skills functionally, i.e. that they can transfer their reading skills to socially relevant reading materials such as public health information. A comparison with the scores on the writing task (which was based on real life functional writing) might give some indication (see later in this section).

4.1 Relations with instructional practices?

One of the reasons for the large differences in reading success between the two groups, besides the fact that group 2 had been practising a portion of the words, is probably caused by the use of different course materials. The second group was using the newly developed, contextualized literacy course manuals, while the teacher of the first group showed some evidence of using some of the old (non-contextualized) materials or very often no materials at all (she would teach 'by heart', she reported). Most probably the guidance provided by systematic use of the new literacy textbooks led to the results for group 2.

Differences in teacher qualifications, methodologies and feedback most probably have also contributed to the large differences between the two groups. As far as could be observed, the teacher of group 1 spent a lot of time on the skill of copying the alphabet from blackboard to notebook. When reading words, there was a focus on naming single letters, not on blending sounds. The teacher, like many literacy teachers in East Timor, used the official names of the Portuguese letters, instead of the sounds, at least for the consonants.[15] For example for /f/, the letter-name *efi* is used, for /l/ *eli*, and for /r/ *eri*, which erects the following obstacles: spelling a word like *flor* 'flower' becomes *efi-eli-o-eri*. For /h/ they use *aga*, for /m/ they use *emi* and for /n/ *eni*, which makes the word *homen* 'man' spelled out sound as *aga-o-emi-e-eni*. Instead of helping learners to blend (link) the letters to words, these letter names create problems for the

[15] *Names of the letters* refers to terms like gee or double uu, *sounds* to pronouncing /g/ or /w/.

learners. This was clearly the case in the literacy classes of the first group. As far as could be observed, the teacher paid little attention to demonstrating and practising how to blend (link) correctly, or how to abstract from the level of letter names (i.e. showing that the letter that is called *efi* sounds like /f/ at the beginning of the word *flor*).

Observations in group 2 showed that the teacher used the new literacy materials fairly systematically; he seemed to use the teacher guidelines and worked on one or two pages of the workbook every lesson. In addition, he was looking for ways to make learning fun by using games or telling jokes in explaining new words or in guiding students' exercises. He seemed to focus more on results in practising (reading complete words) and functionality (words the learners can use in their daily life). He also seemed to have a better command of the Portuguese language than the teacher of the first group. Further research is needed to find out what the impact is of these factors. The main point in this pilot was to see whether investigating word recognition skills and strategies would be useful to differentiate between students that did and did not succeed in learning to read.

4.2 Errors

We also looked at the reading errors of the students that read more than a few words. We do not present details here, but merely the most frequent errors to see in what way first language phonology might have influenced second language beginning reading. Because of the low reading scores of group 1, no group-comparison is made here. The most frequent occurring reading mistakes were the following:

- Portuguese **v** in *vem* 'come' or *uvas* 'grapes' often pronounced as **b** (as in some Tetum varieties);
- Portuguese **j** in *já* 'already' often pronounced as **z** (as in some Tetum varieties):
- Portuguese **x** in *peixe* 'fish' or *xadrez* 'chess' often pronounced as **z**/**s** (as in some Tetum varieties);
- Portuguese **c**, to be pronounced as 'k' in *zinco* 'roof' or *escada* 'stairs', often pronounced as **dzj** / **tsj** (in Tetum the letter 'c' is only used for foreign names);
- Consonant clusters in Portuguese leading to adding a vowel and creating an additional syllable, like *flor* becoming *fe-lor* or *fo-lor,* or *centro* becoming *cen-te-ro.*
- An error likely caused by visual confusion seemed to be the Portuguese **rr** in *arroz* 'rice', that often was not recognized as such but seen or read as **n.**

It seems that the students adapted their pronunciation of items with sounds that are unknown or infrequent in their L1 to the phonology of that language. The most frequently observed errors reflect the pronunciation of sounds in L2 that do not (or not in the same way) occur in L1 and therefore seem to cause problems in reading in L2. This is a well-known phenomenon in adult second language beginning reading.

4.3 Relationship with writing skills

Since reading comprehension was not tested in this pilot, and (good) word reading skills could also have been observed without any grasp of the meaning ('barking at the moon'), the more functionally based writing skills of the two groups were also compared. In the writing products (the filled out forms) major differences were also found between the first and the second group. The average total writing score of group 1 was 4.14 (sd 2.28) and of group 2 was 15.86 (sd 0.38), the difference being significant (t=-13.32, p=0.000). Most participants of the first group only wrote their name and signature, most of the second group completed the entire form, including the open question on why they wanted to learn to read and write. (See examples of writing in Appendix 2.) The frequently made errors again seem to reflect the fact that letters or

sounds in L2 that do not (or not in the same way) occur in the L1 cause problems in writing in L2. That better word recognition skills seem to go together with better functional writing skills is also illustrated by the high and significant correlations between word reading scores and writing scores (r= 0.80, p=0.000).

5 Conclusions

Taking into consideration that this study was only meant as a pilot to investigate what kind of instruments and observations of reading strategies and instructional practices might be relevant in a larger research project, as described in section 3.1, a few conclusions can still be drawn. Considerable differences were found between the two adult literacy groups, both in word reading scores as in the use of word recognition strategies. Group 1 mainly used the random strategy of reciting letters of the alphabet or letter naming without blending. This group had low reading scores and did not succeed in recognizing written words. Group 2 mainly used decoding strategies or the already automatized word recognition strategy. This group was much more successful in reading words. The differences in outcomes seem to confirm the stage models of beginning reading in an alphabetical script and are probably caused both by differences in teaching methodology and teacher qualifications in instruction and in feedback strategies. Using more efficient word recognition strategies does not seem to be restricted to better reading of lists of isolated words, but seems to transfer to better functional writing skills as well.

Though this was only a pilot with a limited number of participants, the results seem to suggest that options exist to improve the literacy learning process and add to the efficiency of teaching reading. In addition, if more is known about the errors that are likely to be made by these learners learning this particular language, this knowledge could be useful for literacy teaching and for the current and future development of literacy manuals to be used by teachers and learners. The pilot showed that carefully assessing the reading and writing skills of beginning literacy students seems to be relevant, but so are the linguistic and sociolinguistic differences between first and second languages, a thorough collection of background variables and of classroom practices. As for the implications for adult literacy teaching, it can be assumed that more knowledge about stages and strategies in beginning reading, about specific second language problems, and about more and less successful ways of teaching will lead to improved literacy course materials, improved literacy teacher training and improved literacy programs and policies, regarding both Tetum and Portuguese as a first or second language in East Timor.

Figure 2: Literacy learner from the Atauro group (group 2) writing his name on the blackboard

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Appendix 1: Reading scores and strategies

Background data, word reading scores and frequencies of word recognition strategies by student and group

Group:	Name:	Sexe:	Mother tongue:	Score:	Strategies:				
					1	2	3	4	5
1	Domingas	Female	Fataluku	0	20	0	0	0	0
1	Laurentina	Female	Tokodede	0	0	10	5	0	0
1	Ilda	Female	Makasae	13	0	0	20	0	0
1	Filomena	Female	Fataluku	0	20	0	0	0	0
1	Ana Madalena	Female	Mambae	0	20	0	0	0	0
1	Ana Jesus	Female	Kemak	0	20	0	0	0	0
1	Antonia	Female	Tetum	1	0	14	1	0	0
1	Amelia	Female	Mambae	2	0	5	11	0	0
1	Bernadete	Female	Mambae	17	0	0	20	0	0
1	Teresa	Female	Mambae	0	20	0	0	0	0
1	Rosa	Female	Mambae	0	20	0	0	0	0
1	Regina	Female	Kemak	0	0	15	0	0	0
1	Florentina	Female	Tetum	0	20	0	0	0	0
1	Madalena F	Female	Tetum	14	0	0	8	12	0
2	Angelino	Male	Racunglu	20	0	0	0	0	20
2	Amelia SO	Female	Rasua	20	0	0	0	0	20
2	Jacob	Male	Rasua	19	0	0	0	1	19
2	Mateus	Male	Racunglu	20	0	0	0	0	20
2	Joao	Male	Rasua	16	0	0	0	5	15
2	Lucas	Male	Racunglu	20	0	0	0	0	20
2	Anteiro	Male	Rasua	19	0	0	0	4	16

Appendix 2: Writing samples

Errors are noted as follows: word > misspelled word

- *Ler e escrever e muito importante para mim* > *muto*, *min* / *mien*
  'Reading and writing is very important for me.'

  The error in *mim* is probably due to the absence of word-final Portuguese –m in East Timorese languages such as Tetum.

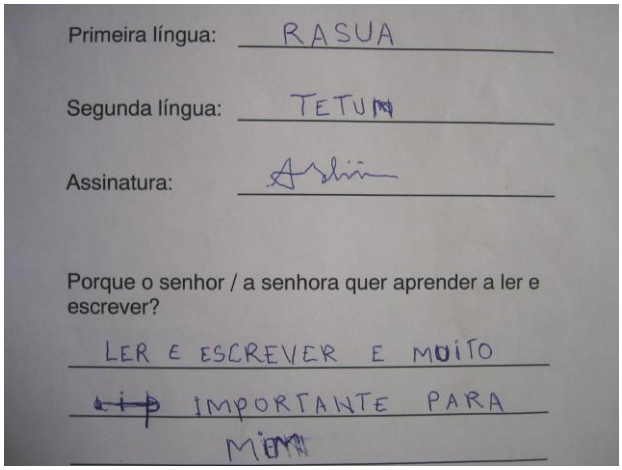

Figure 3: Ler e escrever é muito importante para mim.

- *Quero assinar o meu nome* > *asinar*
  'I want to sign my name.'

This is an example of writing phonetically: the double ss is a convention, not a different phoneme from s.

Other errors made, mainly by learners of the first group:

- forgetting the difference between capitals and lower case and leaving out spaces:

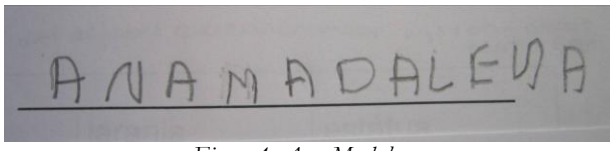

Figure 4: Ana Madalena

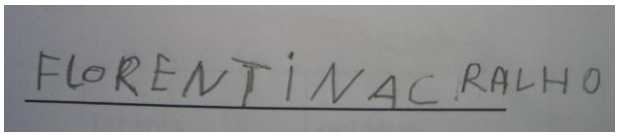

Figure 5: Florentina Cralho

- errors with the tilde (~), which is frequently used in Portuguese (on *o* and *a*) and less frequently in Tetum (on *n*) or other L1's:

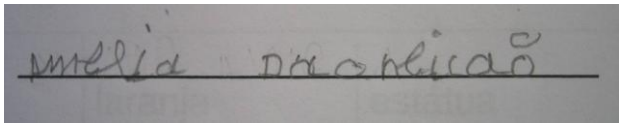

Figure 6: Amelia's family name ending on -ão

Figures 7 and 8 show that some differences in writing fluency were found. Low writing scores - due to many errors - were obtained mostly by learners with low reading scores:

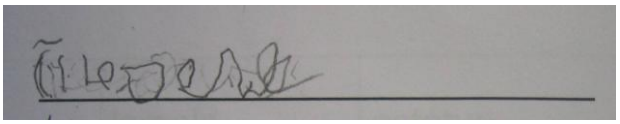

Figure 7: Theresa

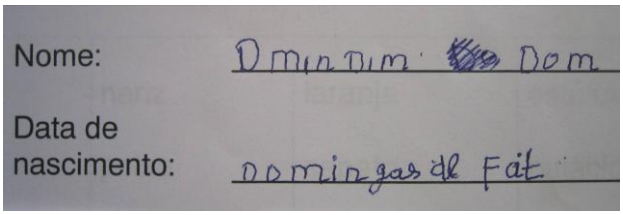

Figure 8: Domingas