

FOOTPRINTS FOR THE FUTURE: COGNITION, LITERACY AND SECOND LANGUAGE LEARNING BY ADULTS

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Abstract

In this chapter we try to understand why second language (L2) and literacy acquisition seems to be so hard and time-consuming for adults who never went to school as children. We combine earlier and recent research on the relationships between literacy and cognition, and empirical data from L2 literacy acquisition and classroom practices. The historical review of the literacy and cognition debate shows that the initial view that literacy changes the way cognition operates was at first judged as grossly overestimated, while the latest neuropsychological studies do seem to suggest an impact of literacy on language and information processing. The available classroom research reveals that unschooled L2 learners progress at a slower pace and achieve lower levels of proficiency than schooled L2 learners, but also that tailored and contextualized teaching are strong predictors of success. This suggests a continuum ranging from concrete semantic-pragmatic embodied processing of language and information to abstract, symbolic processing at the other end, the latter being related to literacy and learning in school contexts.

Two general implications for the future are formulated: multisensory integration by using TELL systems and refocusing on literacy first to facilitate the cognitive language processing strategies that are so badly needed for enhancing L2 acquisition.

Keywords: literacy, (situated) cognition, (language) processing, multisensory

1. Introduction

Learning to read and write and learning a new, additional language at the same time is disproportionately hard for adults who seldom or never went to school as children. This particular problem has been a consistent focus of all LESSLA

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conferences. It was a core issue at the 10th LESLLA conference at Radboud University, Nijmegen: What is the relationship between literacy, cognition and second language acquisition, in non- and low-educated adults? In this chapter we seek to connect research and classroom practice, by reviewing both earlier and more recent research outcomes and by highlighting recurrent observations and empirical data from classroom practice and relating them to each other. We shall begin with a historical overview of the way the relationship between literacy and cognition has been interpreted, starting in the 1960s. A series of well-known publications on the orality-literacy distinction addressed the pervasive consequences of literacy, not just for society (philogenesis), but also the individual mind (ontogenesis). Does literacy decisively change the way cognition operates? The answers in the sixties were affirmative, arguing that the holistic ear was replaced and succeeded by the analytic eye, the overall interpretation being summarized under the umbrella of the literacy hypothesis. Nevertheless, the arguments were not strong enough to prevent the reopening of the debate on the cognitive consequences of literacy in the eighties and nineties, leading to the conclusion that the impact of literacy on cognition was heavily overestimated. The line of thought taken at that time was that literacy and cognition are largely independent paths of development, but it remains a fundamental problem that it is hard to disentangle the impact of language development, cognitive development and literacy in research on young children.

Adults who are totally unschooled may provide a crucial source of information for estimating the impact of literacy. With the arrival of migrants and refugees, new groups of nonliterate adults entered western educational systems. The proceedings of the past ten LESLLA conferences amply demonstrated the many learning challenges they have in simultaneously becoming literate and acquiring the new language of their host country. We shall review the available classroom research, showing that, in general, unschooled second language (L2) learners progress at a much slower pace and achieve lower levels of proficiency than schooled L2 learners. They have fewer metalinguistic skills, a conclusion which takes us back to the relationship between literacy and cognition. The first decade of the new millennium brought new (neuro)psychological studies with new research methodologies for unschooled adult L2 learners. The conclusion to be drawn from these is that the eye is not replacing or succeeding the ear but that both sensory systems cooperate and converge in the processing of linguistic information in the brain. This leads to a continuum ranging from concrete semantic-pragmatic embodied processing of language and information to abstract, symbolic processing at the other end, the latter being related to literacy and learning in school contexts.

The classroom observation and research findings seem to make clear what their footprints for the future are: we are beginning to understand why second language and literacy acquisition for LESSLA groups take such a large amount of time. We also need to translate this knowledge into its implications for the educational system, in addition to and in combination with a transparent agenda of continuing research. We shall finally outline two general implications for the future: multisensory integration by using TELL¹ systems and refocusing on L1 literacy first, to facilitate the use of the cognitive language processing strategies that are so badly needed for enhancing L2 acquisition.

2. An eye for an ear: Literacy and cognition in the sixties

2.1. The swinging sixties

The early 1960s witnessed the start of a passionate debate on the impact of literacy on cognition. Over the space of a few years, several now well-known publications appeared about what would be portrayed as the 'orality-literacy' debate: *La pensée sauvage* by Levi-Strauss (1962), *The Gutenberg Galaxy* by McLuhan (1962), *Preface to Plato* by Havelock (1963) and *The Consequences of Literacy* by Goody and Watt (1963). All authors (and later also Ong 1977; 1982) presumed that the invention of the alphabet and the use of written language had brought about major, decisive changes in human cognition and led to the birth of modern, rational thought.

Levi-Strauss (1962) investigated the structure of myths, symbols and narratives in oral societies; the concrete, sensual ways of thinking in these societies contrasted with the abstract, formal ways of thinking in literate societies. McLuhan (1962) argued that the printing press had strengthened what had already started with the invention of the alphabet. He contended that reading silently instead of the usual reading aloud radically changed reading from an holistic and oral into a linear and analytic visual activity. This shift would have been impossible without the invention of the alphabet: "by the meaningless sign linked to the meaningless sound we have built the shape and meaning of Western man" (1962: 50). Havelock ascribed the changes from poetry to prose in Greece to the alphabetic script and Goody and Watt referred to the permanent character of writing.

Ong (1977; 1982) also presumed that the invention of the alphabetic script and the printing press caused a shift in thinking by replacing the holistic ear with the analytic eye. Because speech could be taken out of its context it became an object of thought and interpretation. All of the above authors were

proponents of the 'literacy hypothesis', which claims that changes in cognition (in individuals and societies at large) over time could be traced back to the invention and use of an alphabetic writing system.²

In the 1930s similar ideas about the relationship between literacy and cognition had been formulated in the Soviet Union. Vygotsky (1962; 1976) argued that the development of cognitive functions like memory, abstraction and reasoning was dependent on the type of symbols used. Writing is a secondary symbol system that raises awareness of language as a primary symbol system. Luria (1976) added that reading makes words and verbal relationships an object of consciousness. According to Vygotsky and Luria, this was the main impetus for changes in mental processes.

It is relevant to keep in mind a few core notions of these scholars: the importance of phoneme-based alphabetic writing, the analytic eye instead of the holistic ear, writing as decontextualized language that triggers awareness, and (formal) reasoning as deducing implications from linguistic relationships.

2.2. Investigating the literacy hypothesis

The literacy hypothesis seemed to make sense on the basis of the earliest observations and research results. In the 1930s, Luria (1976) compared unschooled adults with two groups of (low-educated) literates. He expected the nonliterate to use a visual-functional reflection on reality, and the literates to use abstract, verbal and logical thinking. In a sorting task, he asked them to sort geometrical forms like circles and squares of dotted and straight lines. The vast majority of the nonliterate grouped the forms on object features ("these are clocks") or visual features ("these have dots"), the literates on geometrical features ("these are circles"). In a classification task he asked the subjects which words went together in a series, for example, saw, axe, wood and hammer. The nonliterate based their judgment on pragmatic-functional features ("saw, axe and wood belong together"), the literates on categories ("saw, axe and hammer are tools"). In a syllogistic reasoning task ("Cotton grows where it is hot and dry. England is cold and wet. Does cotton grow there?"), the nonliterate were not able to draw conclusions based on the premises in the syllogism. They said that they did not know, as they had never been to England. The literates, by contrast, were able to draw premise-based conclusions. The nonliterate solved problems in a concrete, context-bound way and were influenced more by perceptual and functional features of stimuli than the literates. Around one year of literacy education was apparently sufficient to make the switch to more formal reasoning.

2.3. The end of the debate?

In the 1980s, the literacy hypothesis was gradually losing its strength, due to critical publications and the empirical investigation of, among others, Graff (1979), Street (1984), Finnegan (1988), and particularly Scribner and Cole (1981). Graff (1979) put forward the idea that the social and economic development seen during the 17th century in the Western world did not necessarily relate to literacy development and Finnegan (1988) argued that there was no clear-cut distinction between oral and literate discourse.

Scribner and Cole (1981) tested Vygotsky's claim that literacy impacts the cognition of the individual and found an ecologically valid context in Liberia to disentangle the impact of literacy as such from schooling in general. Alongside schooled literates in Arabic or English, there were unschooled literate Vai who had learned informally to read and write the syllabic Vai script. Like Luria (1976), Scribner and Cole used classification, memory and reasoning tasks to compare nonliterate adults with different groups of literates. In none of the tasks did they find systematic differences between the literates and the nonliterate. They concluded that there was no clear evidence for the supposed direct cognitive consequences of literacy, but the consequences could be related to the different literacy practices, such as memorizing sequences (Arabic literates) or talking about proper utterances (Vai literates).

The outcomes of Scribner and Cole's study seemed to mark the end of the debate. In her review, Greenfield (1983: 219) states that Scribner and Cole's book "should rid us once and for all of the ethnocentric and arrogant view that a single technology suffices to create in its users a distinct, let alone superior, set of cognitive processes". Gee (1986: 742) concluded that literacy as such "leads to no higher order global cognitive skills".

2.4. Re-opening the debate

Olson (1994) again took up the thread of the debate about the cognitive consequences of literacy. According to him, McLuhan, Havelock, Ong and Goody & Watt had indeed used tempting metaphors, like 'an eye for an ear', but they did not really spell out how and why writing or the printing press triggered these cognitive effects. Why would the visual modality cause linear thinking or the eye bring about an analytic perspective? Why would writing make language an object of awareness and which specific features of language were involved? Olson exchanged the metaphors for 'operational theses'. He argued that writing raises awareness of those features of language that are represented in the writing system (like phonemes in alphabetic writing) and that

the development of western thought is caused by the fact that a writing system is not very good at exposing the intended meaning of a message/text. If the written text does not present that answer, the reader has to search for the intentions of the author. In that quest Olson saw the heart of the relationship between literacy and changes in cognition: it led to new concepts, like the differences between assertion, intention, supposition or deduction, between literally and metaphorically, or between fact and interpretation.

A huge body of research comparing pre-reading and reading young children confirmed Vygotsky's and Olson's ideas that literacy brings about awareness of those features of language that are presented in the writing system, with phonemic awareness standing out (for overviews see Adams 1990; Bradley & Bryant 1983; Byrne 1998; Ziegler & Goswami 2006). These studies, however, suffer from a methodological problem: in young children it is hard if not impossible to disentangle language development, cognitive development and literacy as possible sources of changes in metalinguistic awareness (Kurvers & Uri 2006).

Adding adults who are totally unschooled to L1 empirical research might have been helpful in disentangling these different sources, but nearly all adults in western countries would have attended school, even if they could not read and write well (cf. Barton 1985; Hamilton & Barton 1983; Scholes 1993; Scholes & Willis 1991; Viise 1996; Worthy & Viise 1996). Their phonological problems could have been the cause of their reading difficulties (rather than it being a consequence of literacy) so they cannot be conflated with 'true' nonliterate adults. A few exceptions (where nonliterate adults who had not gone to school were used as subjects), were the early studies by Morais et al. (1979) in Portugal: these revealed that nonliterate adults were not aware of sub-lexical units like phonemes. With the arrival of migrants and refugees from Mediterranean and African countries, new groups of unschooled nonliterate adults entered western educational territory. They had to learn to read and write for the first time in their lives in a new language while at the same time learning that language. Research in this area can only make progress if researchers succeed in disentangling literacy from other important learner characteristics that might affect L2 learning and L2 literacy learning (e.g., traumatic past, difficult lives). To that end, we provide an overview of research on unschooled LESLLA learners, focusing respectively on progress, metalinguistic skills and predictors of success.

3. Research on LESLLA learners

The proceedings of the past ten LESLLA conferences amply testify that practitioners have repeatedly and emphatically asked that special attention be given to the extreme challenges they encountered in teaching unschooled and nonliterate L2 learners compared to literate L2 learners. They pointed to the slower pace in learning, to the difficulties this group had with standard exercises and two-dimensional pictures, to their problems with focusing on linguistic features in L2 learning, to the fact that fluency was hard to achieve and that talking about language kept triggering misunderstandings. These experiences even raised the question whether there might be a critical period for learning to read and write (Young-Scholten & Strom 2006). Researchers began to take up these observations of practitioners.

3.1. Slow pace, low levels

Kurvers and Van der Zouw's (1990) study revealed that nonliterate adults progressed more slowly in L2 reading compared to low-educated adults who could read in a non-Roman script. A slower development was also found in spelling and writing (Kurvers and Ketelaars (2011)). Gardner, Polyzou and Rampaul (1996) found that progress made by nonliterate (one level in oral and written English), was limited, compared to semi-literate (three/four levels) and high literates (nine levels).

In a large-scale study on 490 LESLLA learners, Condelli and Spruck Wrigley (2006) investigated which factors impacted growth in reading and second language skills. Entrance literacy level did have an impact: the nonliterate students showed hardly any growth in reading comprehension, while students who entered the classroom with basic reading skills showed significant growth.

Kurvers and Stockmann (2009) monitored the learning success of approximately 230 LESLLA students, about half of whom had received no schooling in their home countries. The study investigated how much time these learners had needed (in contact hours) to reach literacy levels A, B or C (see Stockmann 2006). Level C (equivalent to A1 in CEFR levels³) was achieved by about 12%, even after attending classes for more than 1200 classroom hours. After an average of 950 classroom hours, the majority of students emerged at or below literacy level A, which signifies competency in the decoding of simple monosyllabic words and very simple short texts. In other words, it took most nonliterate more than two years to be able to read a very simple short text. Kurvers and Van de Craats (2009) found even worse results in analyzing around 700 dossiers of immigrants who failed the literacy element of their Integration

Exam. After an average of 1300 hours' teaching, most of them stalled at a literacy level of reading simple monosyllabic words very slowly. Boon (2014) investigated the word-reading and spelling abilities of around 740 adult literacy learners in East Timor, the majority being L2 learners. About 50% of them could not read the words they had been practising in class. This correlates with Abadzi (2012) who points to the slow word-reading abilities of adults and high rates of falling back into illiteracy revealed in several World Bank evaluations of adult literacy courses.

Warren and Young (forthcoming) reviewed SLA research to investigate the role of L1 literacy in adult L2 acquisition studies. It emerged that most studies were done in the LESLLA domain. Their review revealed that the L1 literacy level had a high impact: low L1 literacy was related to low L2 proficiency in all aspects. Similar results were mentioned by Feldmeier (2008), Gehre and Schuurmans (2014) and Tammelin-Laine (2011).

These studies confirm that achieving the level of fluency needed for comprehension in a second language takes time and is only attained by a small percentage of the unschooled LESLLA learners.

3.2. Limited metalinguistic skills

One of the reasons put forward for this slower pace of learning by the vast majority of unschooled L2 learners is their lack of metalinguistic skills, skills that require awareness of language features. These skills are normally presupposed in L2 teaching. As with most studies on pre-reading children, evidence of lack of phonemic awareness in nonliterate adults was also found in their first, and hence familiar, language (see also Tarone & Bigelow 2005, and Huettig, this volume). Morais, Cary, Alegria and Bertelson (1979) found that adult nonliterate performed much worse in isolating phonemes from spoken words in their L1 than adults who had been attending an adult literacy course. Read, Zhang, Nie and Ding (1986) stressed the importance of an alphabetic script; adult Chinese who had only learned the Chinese script were not able to isolate phonemes, whereas adults who had also learned the alphabetic pinyin script could. Using L1, Kurvers, Van Hout and Vallen (2006) compared 24 pre-reading children, 25 nonliterate adults and 25 low-educated adult readers on metalinguistic tasks such as sentence and word segmentation, word length judgment and rhyming. They found much more significant differences between readers and non-readers (irrespective of age) than between children and adults. A lack of phonemic awareness (of adults without alphabetic literacy) was also found in several other studies (Bertelson, De Gelder, Tfouni & Morais 1989; Holm & Dodd 1996; Lukatela, Carello, Shankweiler & Liberman 1995; Morais,

Bertelson, Cary & Alegria 1986; Reis et al. 2007). Other studies revealed limited awareness of word boundaries in spoken language, for example, in segmenting sentences in words or repeating the last word that was said (Homer 2009; Kurvers 2002; Kurvers, Van Hout & Vallen 2007; Onderdelinden, Van de Craats & Kurvers 2008; Rachmandra & Karanth 2007). In most of these studies even low educated readers significantly outperformed nonliterate in various phonemic and lexical awareness tasks, while an awareness of syllables and rhyme revealed less clear-cut differences between nonliterate and adult readers (Adrian, Alegria & Morais 1995; Kurvers 2002; Morais et al. 1986). This again seems to confirm that literacy brings about an awareness of those linguistic features that are represented in the writing system (such as the representation of phonemes in letters, or the representation of word boundaries in spaces in the alphabetic languages).

Similar findings that point to limited metalinguistic abilities were revealed in studies on the acquisition of oral L2 skills. Tarone, Bigelow and Hansen (2007; 2009) investigated the impact of alphabetic literacy on oral L2 acquisition. Their study revealed a strong impact of literacy on the ability to correctly recall a recast (corrective form of a student's faulty utterance in meaningful interaction), while accuracy of recall was not related to the length of the recast. They also found an impact of literacy on recall of less context-rich questions, and on the use of grammatical markers in oral L2 narratives. Strube (2014) investigated the teaching and learning of oral L2 skills in six groups of unschooled L2 learners. The study revealed that adult literacy learners found considerable difficulty in interpreting oral recasts, and very often did not react at all on oral recasts. Similar results on oral L2 skills are reported in Tarone, Bigelow and Hansen (2007), Van de Craats and Kurvers (2014), Young-Scholten and Naeb (2010).

Young-Scholten and Vainikka (2009) concluded that the unschooled Somali women in their study used hardly any L2 grammatical markers, or at least needed a considerable amount of time to start using them. Van de Craats and Kurvers (2014) asked low-literate learners whether the sentence 'Mother's bike is stolen again' was correct. Several learners replied that this sentence was not correct, for example because "one should not steal the bike of a mother. She needs the bike to bring her children to school". Kurvers (2002) also found grammaticality (L1) judgments given by nonliterate adults to be based on meaning or social convention, not on grammar.

Less research is available on metalinguistic tasks that look at verbal relations in discourse. Tarone, Bigelow and Hansen (2007) identified an impact of literacy in the use of grammatical markers in L2 storytelling. The study of Gardner, Polyzou and Rampaul (1996) revealed that the nonliterate mainly used content words, while the literates used much more words with a grammatical function.

Kurvers (2002) found similar results in the L1: the nonliterate used considerably fewer explicit markers of coherence (such as conjunctions) in telling a well-known folktale than did the low-educated readers.

Whiteside (2008) investigated the problems of five low-educated students in an adult L2 literacy class with different forms of deixis. The interactions in the classroom and the written exercises of the students clearly showed difficulties with deictic references to persons, place, and time or with deictic markers that connected parts of a text. They did not easily find out who was the 'I' in a text, or that 'here' in a text did not refer to the classroom they were sitting in. Markers referring to time in flashbacks and flash forwards were extremely difficult to interpret. Similar observations were presented in Kurvers and Van der Zouw (1990) with learners who confused the "I" in a text with themselves, or time in a text with the real time on their watch. Adult L2 literacy students often answered questions at the end of a text by using their knowledge of the world, not by searching in the text itself.

Although often associated with deductive reasoning, it makes sense to include the syllogism as a metalinguistic task. Ong (1982: 53) defines syllogism as self-contained literate discourse: "The syllogism is thus like a text, fixed, boxed off, isolated". This is nicely illustrated in Luria's observations. When the nonliterate answered that they could only talk about what they had seen, the repeatedly-asked question "but what do my words tell you?" did not trigger a further answer.

As previously stated, Luria (1976) found that nonliterate adults reacted in an experience-based, context-bound manner and literates more in accordance with the relationships among the premises. Scribner and Cole (1981) found a greater impact of schooling on syllogistic reasoning than literacy as such. Kurvers (2002) used similar syllogisms as Scribner and Cole had used: "All women in Markya are married. Fatma is not married. Does Fatma live in Markya?" The nonliterate participants used their own direct experience by answering: "I do not know Fatma", or "We have to ask Fatma." A few nonliterate explicitly used their knowledge of the world in questioning the premise: "It cannot be that there is a country where all women are married" (none of the literates did so). Most of the low-educated readers did use logical relationships among the premises. Counihan (2008) also found that South African nonliterate differed from literates in solving simple syllogisms. In all four studies the unschooled nonliterate tended to base their answers on their own knowledge and experience.

3.3. What works?

Up to now, we have mainly looked at studies that revealed results about what did *not* go well with nonliterate adults and in LESLLA classrooms. Some studies, however, investigated which features of instructional practices facilitate learning. Condelli and Spruck Wrigley (2004) reviewed several studies to identify promising interventions to improve adult ESL literacy. The most promising interventions they detected were respectively teaching literacy in the context of the students' daily lives, integrating multimedia into instruction, direct teaching of literacy and language strategies, the use of native language literacy, and connecting oral language skills and literacy. These promising results were by and large confirmed in two empirical studies on what works in LESLLA classrooms in the U.S. and the Netherlands. Condelli and Spruck Wrigley (2006) investigated what works in the LESLLA classroom. Their study revealed that variation in instruction and connecting the teaching 'to the outside', where teachers brought real world materials and examples of students' daily life into their instruction, were strong predictors of growth in basic reading and L2 skills. They also identified a clear and positive impact of using the students' L1 in adult L2 literacy classes.

Kurvers and Stockmann (2009) also found that contextualizing teaching to the daily experiences of the students, the use of the students' L1 as an additional supportive language in the classroom and the use of a portfolio (in which the every-day use of spoken and written language outside the classroom is reported) had a positive impact on success. Other studies also report the importance of using the daily context of the individual learners and the negative impact of 'one size fits all' (Boon 2014; see also Nuwenhoud, this volume; Stockmann 2006; Whiteside 2008;) and the use of the L1 in L2 learning (Feldmeier 2009; Levine 2003; Olshtain et al. this volume; Spruck Wrigley 2005; Young-Scholten 2006;). Condelli and Spruck Wrigley concluded their review by proposing intervention studies and the literacy outcomes they could affect. Several contributions in previous and the current proceedings illustrate how these suggestions have been put into practice.

In sum, the majority of nonliterate adult L2 learners are progressing slowly and reach low literacy and L2 proficiency levels (below A1 CEFR) after much effort; they possess limited metalinguistic skills and are less sensitive to form at all levels of language, including in their L1. These findings are indicative of particular challenges in learning (to read and write in) an L2. The 'accepted' teaching and learning strategies that are common in many classes for higher educated L2 learners do not seem to work well with LESLLA learners.

Connecting the teaching to what is already familiar to the learners (their daily life, use of L1 in instructions and explanations) seems to be promising.

Overall, the empirical findings seem convincing, but the question remains *why*. Why should so many unschooled L2 learners display a slow pace of learning and achieve a low L2 proficiency level compared to matched literates from the same background? It is not plausible that they all lack the potential to learn (many of them simply did not get the chance to attend school). Why is focusing on form, using grammatical markers or solving simple syllogisms so difficult? Metalinguistic skills, after all, should not be confused with intelligence or learning aptitude. These empirical findings bring us back to where we started: the relationship between literacy and cognition.

4. An eye plus an ear: Literacy and cognition revisited

The first decade of the millennium brought a renewed interest in challenging accepted ideas about the relationship between literacy and cognition. Several (neuro)psychological studies have been using new methodologies in information processing research, including online procedures that directly tap into the processing of language.

Reis and Castro-Caldas (1997) argued that if a skill is not learned early in development, the use of that skill might be limited later in life. They presumed that the processing of lexical-semantic information is acquired spontaneously, while the processing of phonological information might be dependent on the acquisition of reading, by learning to match letters with sounds. They compared 30 nonliterate adults with 30 adults who had learned to read in an adult literacy course. They found significant differences in repeating (nonexisting) pseudo-words, in memorizing pairs of phonologically related words, and in naming fluency based on a formal criterion (e.g., words beginning with *p*). Fewer or no differences were found in repeating existing words, in memorizing semantically related words and in naming fluency based on a semantic category (animals). Nonliterate performed equally well as literates in semantic processing, but were much less adequate in phonological analysis and processing. Similar results on processing phonological information and naming fluency were found in Manly et al. (1999), Ostrosky-Solis, Ardila and Rosselli (1998), Dellatolas et al. (2003) and Kosmidis et al. (2004): no significant differences between nonliterate and literates in tasks based on a semantic criterion (although overall performance was augmented by a greater level of education), but significant differences in tasks based on a formal phonological criterion. Kosmidis et al. (2004) also looked at hemispheric specialization for these processes in 20 literate

and nonliterate adults. Their results revealed that semantic processing strategies were qualitatively the same in both groups, although overall performance was augmented by a greater level of education. The processing of oral information based on phonological characteristics however, was qualitatively different for literates and nonliterates. The effective processing of phonological information turned out to be dependent upon having had a formal (literacy) education. Da Silva et al. (2004) argued that verbal fluency tasks might differ in ecological validity. They compared literate and nonliterate adults on two verbal fluency tasks using different semantic categories: food (supermarkets) and animals. Quantitative analysis revealed no differences between the two literacy groups on the supermarket fluency task but results differed significantly on the animal task. The literates used more clusters (pets, birds etc.) and were faster in completing the task. The results suggest that the principal difference lies not in the working of semantic memory but in its content (reflecting formal education).

These and other studies (also) investigated the processing of visual information, such as naming, recognizing or copying line drawings or abstract figures. Manly et al. (1999) compared neuropsychological test performance among 251 low-educated literate and nonliterate elderly people, about one third of whom were nonliterate. Nonliterates consistently obtained significantly lower scores on measures relating to naming line drawings and the recognition of abstract figures. Ostrosky-Solis, Ardila and Rosselli (1998) compared 64 nonliterate Mexican adults with two barely-schooled control groups. The subjects' ages ranged from 16 to 85 years. The study revealed the significant influence of education in relation to the copying of a figure. Schooling represented a stronger variable than age. In particular, the highest impact identified resulted from the first years of schooling. Similar results on visual recognition of abstract (nonsense) figures were also found by Dellatolas et al. (2003) and Kosmidis et al. (2004).

As for the impact of literacy on working memory, Da Silva et al. (2012) compared 19 adult nonliterate subjects with 19 matched literate controls on verbal and nonverbal working memory. The verbal part stores and rehearses phonological information (as with repeating digits or pseudowords): the nonverbal part temporarily stores visuospatial information. The study revealed that whereas verbal working memory was significantly influenced by literacy, with literates performing better, visual working memory was less affected or not at all.

Ostrosky-Solis and Lozano (2006) reviewed a range of studies on digit span (recall of 2 to 7 numbers) to identify the impact of age, education, and culture. An overall evaluation of 2574 Spanish-speaking subjects showed that the stronger predicting variable sample related to years of education, both for digits

forward and backward. Being able to read and write affects the development and use of working memory abilities that are measured by the digit span task. Similar results were also found by Kurvers and Van de Craats (2007).

Huettig, Singh and Mishra (2011) argue that most of the tasks used in the above-mentioned studies are only partially addressing the (online) implicit processing of language. They used an eye-tracking task in comparing high literates with low-literates (with, on average, two years of schooling). The results revealed that the high literates processed phonological information much faster and more efficiently than the low-literates (see Huettig, this volume).

In sum, adult nonliterates do not seem to differ much from matched literates in tasks that only require semantic processing, in recognizing and recalling known objects and figures, and in processing context-bound and familiar information. They do seem to differ, however, in aspects that are clearly literacy-related: processing phonological information, recalling and remembering pseudowords (see Huettig, this volume), judging word length when semantic information contrasts with phonological information, and in recognizing and reproducing abstract (nonsense) figures.⁴

It is interesting to observe how nicely the outcomes of (neuro)psychological studies and the results of empirical classroom studies seem to converge. Nonliterates can easily process semantic information embedded in a concrete, communicative context, while even those readers who have recently learned to read have additional formal mechanisms available to process spoken language.

Castro-Caldas and Reis (2003: 82) were among the first to offer a neurological explanation for these findings: "The knowledge of reading and writing appears to be a skill that requires the convergence of diverse neural support systems – those responsible for oral language, those responsible for writing, and those involved in visual pattern recognition". The eye and the ear of the sixties are back on stage, but now in simultaneous cooperation. Ardila et al. (2010: 689) conclude that literacy and schooling affect the networks and pathways in the brain used in cognitive processing: "Without written language, our knowledge of the external world is partially limited by immediate sensory information and concrete environmental conditions".

5. Situated cognition: Semantic-pragmatic processing of language and information

All these studies clearly highlight the importance of the role of what is nowadays called *situated cognition* (Kirshner & Whitson 1997; Reder & Davila 2005; Robbins & Aydede 2009). Although theories on situated cognition differ,

most proponents of situated cognition argue that cognitive representations and processes emerge embodied (through the body) and embedded (in interaction with the local context). The symbol 'chair' gets its meaning by the bodily experience of sitting and perceiving objects that allow sitting (Anderson 2003, in Robbins & Aydede 2009). An utterance such as 'it is cold' gets its meaning in a very concrete local context. To explain the transfer to higher cognitive processes, Bereiter (1997) suggests a knowledge continuum with situated cognition at the one end and abstract, symbolic processing at the other. He argues that transfer is about abstracting from specific contexts. In a related way, Davila and Reder (2005) refer to written language that mediates remote contexts and transcends specific individual and local contexts. And although scholars dispute the precise nature of transfer (see Robbins & Aydede 2009), it seems likely that in becoming literate, cognitive processing has to transfer from the concrete extra-linguistic context to the linguistic context (from context to text).

Given this point of view, we can better understand the challenges LESSLA teachers have been describing. The above findings help to explain why nonliterates have difficulties with phonemes and word boundaries, with dealing with linguistic forms separately from the content of the message, with reference and coherence markers in texts, and why they interpret syllogisms not as self-contained packages of information. They enter the classroom relying on well-developed semantic and pragmatic language processing skills in a language and about topics that are familiar to them.

We can also better understand why Warren and Young (forthcoming) noticed a shift in the studies from 'metalinguistic awareness to context'. Most predictors of success in the LESSLA classroom do indeed point in one and the same direction: make use of the semantic-pragmatic information processing that is already familiar to the student. Or, as Whiteside (2008) nicely summarized, "teachers that rely on written input start from the students' weakness; they better start with language that is grounded in the familiar".

6. Future steps

All the outcomes presented seem to converge on explaining why second language and literacy acquisition for LESSLA groups take an excessive amount of time. Studies on situated cognition point to the importance of providing a direct, concrete context in learning in general and on learning to read and write in a new, second language in particular. Becoming literate and learning a new language simultaneously requires the very capacities that are not part of concrete embodied and embedded situated cognition: handling the meaningless

sound (phoneme) and the meaningless sign (the letter) - both secondary symbols, discovering words in the new language that all sound like pseudowords, and the precise wording of sentences plus the use of deictic, grammatical and coherence markers that might have no immediate support from the extra-linguistic context. Simultaneously learning to read / write and learning to speak a new language requires scrupulous attention to the precise make-up of words, sentences and texts, both in written and spoken language. These capacities are exactly what is less important in everyday, face-to-face communication about familiar topics.

How can we take LESSLA learners from one side of Bereiter's (1997) continuum (marked by processing information on the basis of situated knowledge) to the other end (marked by processing abstract, symbolic information), when learning to read the alphabetic script presupposes the ability of processing symbols right from the very beginning? Happily, the (neuro)psychological studies and the situated cognition theories both appear to offer us good news: the plasticity of the brain still possesses the capacity to respond to new information. Or, as Kirshner and Whitson (1998: 25) put it: "What is most promising for situated cognition theory about connectionist architectures and related neurological research is the remarkable responsiveness of the cognitive system to external stimuli."

Tarone and Bigelow (2012) identified five important, promising research strands for LESLLA research: (1) the kind of metalinguistic awareness that emergent readers use in SLA; (2) the longitudinal development of LESLLA(A) interlanguage, including the linguistics forms they acquire before, during and after becoming literate; (3) the impact of different forms of corrective feedback on noticing of different linguistics forms by learners with different degrees of print literacy; (4) the social contexts for SLA, and (5) classroom SLA research.

The remarkably high convergence in the LESLLA classrooms studies, the studies on the illiterate brain and on situated cognition clearly shows the importance of these research strands. A key implication for research on the nonliterate LESLLA learner (our focus here) is not to consider these research strands separately, but to search instead for ways of integrating these strands. This is important, since different points of view on the role of cognition seem to go along with different views on research methodology and on what learning is. If, for example, cognition is viewed as originating in the individual mind, learning will more likely be seen as a consequence of providing a learner with new knowledge, to be measured by quantitative methods and tests. If on the other hand, cognition is considered to be situated locally, operating concretely, learning is to be defined as actively participating in a community of practice and

the preferred research methodology will be an ethnographic case study (Hodkinson & Mcleod 2010).

One of the problems that arise here is that LESLLA research cannot avoid investigating formal educational settings, while situated cognition researchers often prefer out-of-school communities of practice to study 'true' learning (Kirshner & Whitson 1997). Another problem is that research on learning to read and write in an alphabetic script (including the meaningless sound and the meaningless sign) unavoidably has to deal with abstract representations and research on learning a new language with formal as well as meaningful content. There is ample evidence that learning to read with only meaningful units as whole words or stories is less successful than methods that combine reading meaningful units with scrupulous attention to the phonological make-up of words (Adams 1990; Chall 1999; Ziegler & Goswami 2006).

Next to Warren and Young's (forthcoming) recommendations that more systematic attention is required for methodological strength in defining concepts and variables and the strong appeal of Tarone and Bigelow (2005) that LESLLA research needs to enter mainstream SLA research in order to bring about a "paradigm shift in how language is conceptualized, measured, taught, and learned in instructed setting", we want to conclude by adding two general implications for future research and practice that are in fact revisited in several chapters in this volume.

6.1. Multisensory integration: TELL for LESLLA learners

Reis and Castro Caldas (1997) pointed to the gradual convergence of diverse neural support systems that are responsible for oral language, for writing, and for visual pattern recognition. LESLLA classroom studies and situated cognition research revealed the importance of starting from the familiar context in learning. When we seek to address and stimulate the combined and parallel use of different neural support systems, the use of TELL in L2 literacy learning seems to offer great opportunities. A computer screen can (probably more easily than a teacher or a textbook) trigger simultaneous, multisensory information processing: it can offer the LESLLA learner the information required for visual processing of abstract figures (written letters, words, and sentences) and processing spoken language (the same letters, words and sentences in spoken form) while at the same time photographs, pictures and videos can represent the familiar context and meanings that address the semantic-pragmatic information processing (L1 could be added to this).

As shown in the example of Figure 1, a computer screen can also be helpful to beginning-readers because it can show in a very clear way what sound-letter

correspondences are, how a written word can be split up into graphemes, and the spoken word into phonemes and how these two are connected. The semantic-pragmatic information can easily be added by hovering over or clicking on a button on the screen. Motor skills are practiced by dragging, dropping, clicking, hovering over, while the digital skills required for using such software are minimal. The software can be made available in libraries and computer labs. The student can call on these functions as many times as are needed because the computer will never complain when a student is endlessly repeating them. Using advanced speech recognition technology, the computer can even immediately provide feedback to the literacy learner's attempts to read a word aloud.

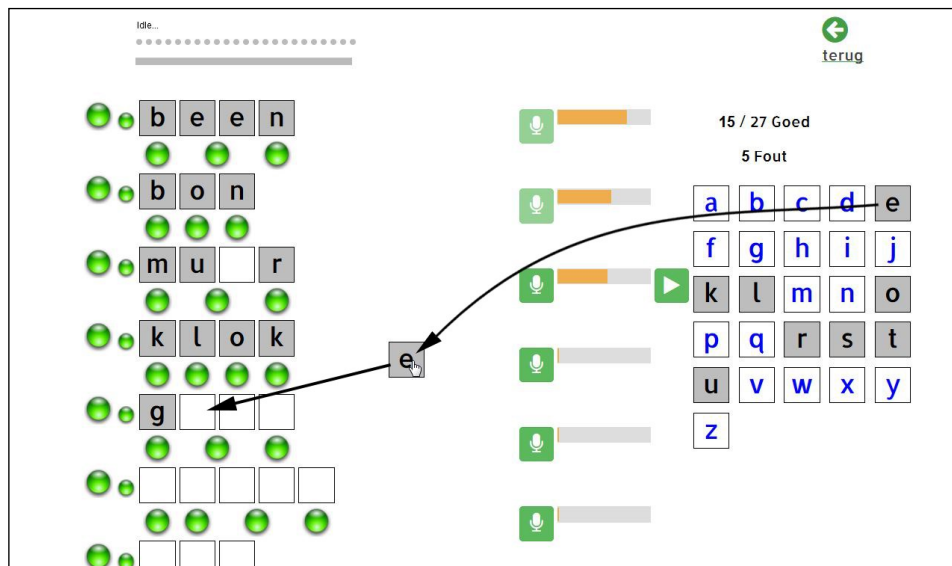


Figure 1: A screenshot from the experimental software DigLin (<http://diglin.eu>). Letters can be dragged from the alphabetic box to the blankets at the left. Here the <e> is being dragged but not yet dropped at the right blanket. Each phoneme can be heard by clicking on the specific green button below a blanket. The whole word can be listened to by pushing the leftmost button and the word can be shown by hovering over the smallest button. The word can be said aloud and if the learner activates the microphone button, he gets feedback on his pronunciation/reading aloud through the length of the orange bar.

TELL, then, can offer spoken language, written language and meaning as an integrated package; furthermore, speech technology creates more possibilities

for immediate feedback. We believe that this presents a promising future for the nonliterate L2 learner and that we are only at the beginning of new advances in research. Some materials are already available for LESLLA classrooms in several countries (see Olshtain et al.; and Cucchiaroni et al., this volume). There is, however, not much research yet that thoroughly investigates the learner-computer interaction and the way in which the new learner processes this information and reflects on it. We need longitudinal research that traces information processing strategies of nonliterate and low-educated adults while learning to read in a new, additional language.

6.2. Literacy first?

One could argue that nonliterate LESLLA learners should not start learning to read and write in an L2 context, until their oral L2 proficiency has reached a certain level (A1 of the Common European Framework, for example). Most studies, however, revealed that acquiring oral L2 skills without literacy skills is extremely hard. A key implication of the findings presented in this chapter is that an adult should learn to read and write first, because literacy offers the proper language processing strategies badly needed for a faster and more efficient trajectory towards fluency in oral and written L2. Letters, after all, trigger an awareness of phonemes and an awareness of phonemes adds phonological processing to semantic processing. In the same way, written morphemes and spaces seem to trigger a conscious awareness of words and grammatical features. The repeated practice of reading and writing letters and decoding and recoding words adds to pattern recognition and fluency. In contrast to young children, many LESLLA learners need basic literacy to accelerate their L2 acquisition.

Most L2 acquisition studies focusing on the role of the L1 have investigated the impact of previous literacy in a retrospective way (but see Condelli & Spruck Wrigley 2004; 2006; Kurvers & Stockmann 2009). Future LESLLA research should also investigate what the impact is of first learning to read in a familiar language, before LESLLA learners start learning in an L2 framework. The studies discussed in this chapter seem to indicate that this is a more promising route than the alternative, waiting for a good oral command at L2.

The big challenge for future LESLLA research is that of solving the following paradox: the learner entering a classroom equipped with mainly semantic-pragmatic cognitive skills has to learn an abstract visual symbol system (that does not represent meaning directly) and formal features in a new and unfamiliar language. In other words, the two ends of Bereiter's (1997) continuum have to be addressed simultaneously, right from the very beginning.⁵

Notes

- 1 TELL or Technology-Enhanced Language Learning deals with the impact of technology on teaching and learning an L2. TELL refers to the use of the computer as a technological innovation to display multimedia as a means of complementing the teaching method of language teachers.
- 2 See Coulmas (1994) and Taylor and Olson (1995) for critical comments on the presupposed uniqueness of the alphabet.
- 3 CEFR: The Common European Framework of Reference for Languages (European Council, 2001) distinguishes six language levels, from the very basic A1 to the near native C2.
- 4 Other outcomes, such as differences in semantic fluency, lexical decision of real words, calculation or comprehension skills, are probably more related to education than to literacy as such (but see Huettig, this volume).
- 5 That differs from practice learning in local communities where learning can involve the gradual change from situated cognitive skills (how to cook an egg) to more complex skills (how to prepare and cook a dinner for ten).

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PEER INTERACTION WHILE LEARNING TO READ IN A NEW LANGUAGE

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Abstract

This paper examines second language (L2) peer oral language interaction between two learners engaged in a partner reading activity. The data come from an English language arts class for newcomers in an all-immigrant high school in the U.S. The focus is on what happens when two asymmetrically-paired, female adolescent students try to read a book together. Through analysis of their interactions in one naturally-occurring paired reading session, we describe how these two students use their language and literacy skills to complete a reading task and in doing so, we consider the complexities of how asymmetrically paired students engage in everyday classroom tasks and the learning opportunities therein. We problematize the assumption that asymmetrical pairing is beneficial for literacy development and explain why.

Keywords: reading, East African, adolescents, peer interaction, literacy

1. Introduction

Peer interaction is widely believed to be beneficial for second language (L2) learners. Research on peer interaction indicates that it has the potential to provide students with opportunities to negotiate understandings of meaning and form (Philp, Walter, & Basturkmen 2010); to notice aspects of the new language (e.g., lexical, syntactic, phonological, pragmatic) (Schmidt 1993); and to engage in the many processes and facilitative benefits that linguistic production offers L2 learners (Sato & Ballinger 2012; Swain 2000). Furthermore, a great deal of research has explored interaction with respect to how the interlocutors' roles and relationships (e.g., Plough & Gass 1993; Storch 2002) and task features (e.g., Revesz 2009) influence interactions and L2 learning opportunities. Overall, the linguistic and interpersonal demands of tasks have been well documented in the research literature as having great potential for promoting peer interaction and language learning (Gass & Mackey 2007). However, the ways materials are used by learners while engaging in tasks

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(Guerrettaz & Johnston 2013) remains less explored. In other words, the interactions between beginners with interrupted formal schooling, while using literacy materials in everyday classroom settings, have been less frequently analyzed. It is important and relevant to uncover what happens in an asymmetrically-paired literacy activity because of the common use of this approach in mixed-literacy level classes. The argument that a learner with more literacy can benefit from working with a learner with less literacy is commonplace for mutual benefit. For example, it seems logical that the learner with more literacy can improve fluency when working with a partner with developing fluency and that the learner with developing fluency can benefit from the support from a more proficient peer. These assumptions about learning, grounded in Vygotsky's (1978) Zone of Proximal Development (ZPD), often undergird teachers' everyday teaching decisions with respect to pairing students and scaffolding learning.

Those who are new to print literacy are also new to the many strategies for comprehending text. They are also in the process of building their knowledge about functions, structures and print conventions, and knowledge of how different texts work. Emergent readers are still learning onset-rime blending, individual sound blending, and blending and segmenting of compound words. These skills need to be taught, which means that they must be integrated into basic literacy instruction, often in classes with mixed literacy levels. Therefore, it is inevitable that, even with the most carefully differentiated lesson plan, students will be asked to work together across mismatched literacy levels, with texts that are either too difficult or too easy for them.

While there are many pedagogical suggestions about designing second language tasks designed to maximize learning, there are relatively few descriptive studies of naturally occurring peer interaction in classrooms (Philp, Walter, & Basturkmen 2010). Although there are notable exceptions (e.g., Storch & Aldosari 2013), overall, most peer-interaction studies rely on researcher-created, not teacher-created tasks. It is common for data collection to occur outside of regular class time, typically with adults who have volunteered to participate and who carefully attend to the task instructions they are given. It is also common to publish the results of reading such as comprehension of the text or an analysis of errors, rather than a detailed account of what occurs during the paired reading event.

To address this gap, we analyzed two students' interaction while carrying out a partner reading activity. The text the participants read together exerts a powerful mediating force in the interaction because of students' joint attention on the printed word. Within a Vygotskian analytical framework, learning cannot be understood without reference to the context within which it occurs.

Many researchers have used Vygotskian theories to understand peer interaction (e.g., Zhu & Mitchell 2012) because it provides tools to focus on multiple layers of an event—the interpersonal, the interactional, the intertextual, and the intercultural. Sociocultural theory has been widely used and adapted to explore L2 learning in many settings and with learners of all ages (de Guerrero & Villamil 2000; Kowal & Swain 1994). While Vygotsky used the ZPD as a tool for understanding the mental age levels of a child, present-day researchers have adopted this construct to examine how learners’ potentially support and scaffold each other, and negotiate the task at hand. The research in this area lends overwhelming support for the benefit of peer interaction, particularly when there is a more proficient partner, as in the pairing in this study.

In the partner reading task we analyze here, the book read by the students mediates the interaction and the potential learning that the task has to offer. We know of no research that explores second language peer interaction in which lack of print literacy was recognized or problematized with respect to task design or dyadic pairing. The tendency to exclude certain learner populations and to rarely use routine classroom contexts such as that described here is highly problematic for a field such as SLA, which strives toward universal generalizations about the nature of language learning (Bigelow & Tarone 2004). This is particularly salient in light of the substantial evidence that L2 learners without alphabetic print literacy skills tend to process oral language differently than those with print literacy, and further, to use different strengths and strategies than those with print literacy.

In light of the gaps we have identified, this paper addresses three questions for two learners with different first and second language literacy skills: (1) How do the two participants with vastly different literacy levels engage with the task and support each other’s engagement towards task completion? (2) What varied roles and participation structures are created as the two participants work on the task? (3) How do the participants’ respective literacy, linguistic, academic, and social strengths and challenges shape how this peer interaction unfolds and the learning opportunities therein?

2. Methodology

In this study, we analyzed how the participants participated in a partner reading task. Specifically, examined the data in a way that would account for the three aspects central to task completion: (a) we counted the words on each page of the book, (b) we noted the students’ physical interactions with the book using their hands and “a driver” (a piece of paper to keep the reader on the

correct line of text), and (c) we analyzed what they verbalized alone and together. This approach to understanding the interaction and engagement with the partner reading task allows us to understand how the girls worked with each other – who helped who, how and when. It allowed us to see the respective roles and contributions of each learner. This approach thus drew upon both cognitive and sociocultural research paradigms to understand how learners with divergent levels of formal schooling, literacy, and L2 skills support each other toward task-completion. This mixed approach draws from the cognitive foundations of learning to read which dominate reading research (e.g., Kamil, Pearson, Moje, & Afflerbach 2011) with a long tradition of research on reading strategies and reading comprehension. In addition, we drew upon sociocultural traditions as we analyzed how the participants engage in the reading task, and with each other, with the assumption that reading occurs in a social context, past and present, and often involves interactions with the text and other people (e.g., Bloome & Egan-Robertson 1993).

2.1. Research context

The data for this study were collected in an urban, all-immigrant high school. The vast majority of students at this school are English learners who arrived to the U.S. as adolescents or young adults (ages 14 to 21 years). The tone of the small school was close-knit, friendly and upbeat. We focused our data collection in two beginning-level ESL classes. The teacher, who is certified in K-12 ESL and reading, has a high level of intercultural competence, based on our many observations of how she interacted with students of different backgrounds. She welcomed students' languages into the instructional space and was respectful of students. Despite students' beginning-level English proficiency and emerging print literacy, the teacher regularly tried to include higher order and often very abstract language arts skills such as plot analysis, as well as materials she thought would be culturally familiar.

2.2. Participants

Ayan was 15 at the time of the study and in her second year in this introductory English class. This school was her first formal schooling experience. Ayan was outgoing and talkative (in Somali) and was often redirected back to her work by the adults in the room. She did her classwork with a lot of obvious effort. She had acquired many skills and concepts of an emergent reader such as text flows from left to right, and had mastered many aspects of 'doing school' (Roy & Roxas 2011). For instance, she was very

concerned with the performance of good student behavior (e.g., following instructions) and figuring out ways to complete a task (e.g., borrowing a students' worksheet to copy). Yet her English writing skills and productive oral skills were among the weakest in the class. While Ayan was a proficient speaker of Somali, we had no evidence that she could read or write in Somali. We administered the Somali literacy test with her and she was unable to complete any part of the assessment. She did the English reading activities very slowly, with much sub-vocalization and little confidence.

In turn, Aisha, arrived one month before this interaction was recorded. While there were other Ethiopian students in the class, she was the only Amharic speaker. She spoke in a quiet voice, but smiled often and seemed comfortable in the class. She was 19 years old and reported that she had started school when she was eight years old and had not missed any formal schooling. She demonstrated fluent and confident Amharic reading and writing skills. She was also comfortable with the routines of schooling reported that her school in Ethiopia was similar to this school in many ways and that she had studied English before she came to the U.S.

2.3. Data collection and task description

While the project yielded many hours of field notes, videos, and documents, this paper presents analysis of one audio-video recording of peer interaction during one particular partner reading activity between two students: Ayan and Aisha. The reason for exploring this data excerpt is to go into depth with one partner interaction. It is the only data of its type in our corpus because the 34-minute video-recording of a routine literacy task, was captured with a video camera at close range with high quality video and audio of the learners' process, from start to finish. We make no claims that the way this task unfolded is similar to that of other asymmetrically paired students in the same activity, or that our results are generalizable to other contexts. We do argue that what we can learn from this analysis will resonate with educators who find this literacy activity to be similar to those they implement in their own classrooms. In this way, what is learned from this analysis may be transferable, tailored, and applied to other similar settings.

During this partner reading, students who normally sit with each other did the activity together. Ayan and Aisha, like the 10 other dyads in the class, were given one book to share. The story is a folktale called *Anansi and the Pot of Beans* (Norfolk & Norfolk 2006). The teacher instructed pairs to both read each page in the following way: one student was to move a "driver" (piece of construction paper the length of the page) down each line of text as the other student read

aloud. The expectation was that they would switch roles, including switching who holds the driver, and re-read the same page. Before moving to the next page, they were asked to discuss the question, “What happened?”, to aid comprehension, prompt oral interaction, and to encourage the development of comprehension strategies. These task design features required participants to engage in “bottom up” decoding skills when they needed to sound out words, as well as “top down” comprehension skills, when they needed to summarize what happened on each page. Students had done this task before with other books and the teacher modeled it again before the task started. After reading, students were asked to answer three comprehension questions on a worksheet.

2.4. Data analysis

The analysis of the transcribed video-recording focuses on Ayan and Aisha’s interaction with each other and with the text. We examine how they negotiated their roles in the task and how they stayed engaged throughout the task. We also sought to analyze how the girls’ academic or personal strengths, dynamics, or challenges seemed to shape the interaction. To this end, we viewed the transcript and video with an eye to the different sorts of interactions between the girls, and quantified word supliances, as detailed below. The close-up video allowed us to track how the oral interactions corresponded with the physical pages and text of the *Anansi* book. The transcripts analyzed below include the researcher (Bigelow) and the Educational Assistant (Jane), as well as the two students.

Two constructs emerged as analytically important: participant structures and supliances. Participant structures have been defined as the respective roles and patterns of engagement of individuals in an activity (Cazden 1986; Philips 1972). Participant structures could be determined by the instructions and assigned roles of a task, or they could emerge as the collaboration unfolds. Participant structures in this study were determined by how the girls’ reading aloud, which was part of the task instructions, was organized across the task (e.g., one girl as reader and one as ‘audience’). We segmented and analyzed the transcript to correspond to each page of the book as well as by the distinct participation structure that qualitatively emerged through the analysis of turns.

Supliances refer to the solicited or unsolicited provision of the next word(s) on the printed text to the reader (sometimes referred to as ‘tolds’). Supliances often function as a means to facilitate and demonstrate shared attention on the printed text or as a means to minimize learner frustration and accelerate reading rate. Supliances potentially support comprehension by providing oral access to an unfamiliar word, and thus speed up the rate of reading aloud.

Suppliances likely do less to develop and practice using syntax, visual cues and strategies to comprehend the text. We coded for instances when the reader received a word from someone (suppliances); when the learner was prompted to attend; when there were explicit requests for assistance; and when there was manipulation of the materials (e.g., turning pages).

3. Findings

We found that in working on the assigned task of reading the 32-page folktale, these two asymmetrically paired students engaged in four different participation structures. Below we describe in broad terms how Aisha and Ayan construct these participation structures, and collaboratively move across them as they read.

3.1. Participation structure 1 (story pages 1-6)

For the first six pages of the text, both girls read each page. e.g., Aisha read the page, then Ayan read the same page aloud (as indicated by dark grey shading for both girls in Table 1). For all six pages the asymmetry in reading fluency is stark with Aisha reading quickly, fluently, and with generally appropriately pacing intonation. Ayan, in contrast, is more hesitant, and less fluent in her oral production. Ayan's pauses elicit multiple, frequent word suppliances (i.e., the provision of the next word(s) on the printed text) by Aisha and by the researcher, Bigelow, as quantified in Table 1.

Table 1: *Overview of participation structure 1*

Page of book	1	2	3	4	5	6	Totals
Aisha outloud reading and suppliances received	-	-	1	1	-	-	2
Ayan outloud reading and suppliances received	9	6	8	4	5	1	33

As evident in Excerpt 1 below, Ayan's oral reading of the text is highly supported and scaffolded, while also frequently interrupted as she is rarely

given time to attempt to sound out a word. Here, Aisha quickly reads page 2 of text; the girls then quickly switch roles.

Excerpt 1 (see the appendix for transcription conventions)

<i>Time</i>	<i>Turn</i>	<i>Participant</i>	
2:08	1	Aisha	[using finger to follow words above driver, which is moved and held by Ayan] Grandma spider said anansi. Do you have any work for me today. Sure, said grandma spider. I want you to plant some beans in the my garden. grandma spider said anansi do you have.... (2 sec)
2.22	2	Ayan	
2.38	3	Martha B.	any.
2.40	4	Ayan	any work xxx [unintelligible]
2.49	5	Aisha	today
2.50	6	Ayan	today xxx [unintelligible]
2.55	7	Martha	sure,
2.56	8	Ayan	sure said grandma spider. i want you to
3.08	9	Martha & Aisha	plant.
3.09	10	Ayan	Plant
3.13	11	Martha	some.
3.16	12	Ayan	some ...(8 sec)
3.26	13	Martha	beans.
3.27	14	Ayan	[taps finger on word] beans in my garden [following with finger]

Of the 26 words on this page, Ayan receives supplants for 6 of them, that is in turns 3 5, 7, 9, 11, and 13. Ayan's accuracy in decoding the text is quite low; she receives supplants for 26% of the words on this page but seems to recognize few. Ayan has reached a frustration level based on her rate of reading, pauses and lack of appropriate spacing or intonation, yet she persists through the task.

Across this first participation structure, this pattern remains constant with Ayan receiving supplants for roughly a quarter of all words. Over these first five pages of text (121 words total), Ayan receives 33 word supplants (a rate of 27%). Eleven are supplied by Bigelow, and 22 by Aisha. In contrast, when Aisha reads these same 121 words, she receives only two supplants, one from Bigelow and one from Ayan ('ground'). These supplants can be interpreted as the result of Ayan's slow reading rate and/or Aisha's desire to move the task along or lack of patience. Furthermore, Ayan and Aisha are not

reading strategically. For instance, neither is initiating self-repair or coaching the other in decoding strategies.

The asymmetry between the girls is most evident in this structure in terms of reading fluency, but it is also apparent with respect to who is managing the task. Ayan, the weaker reader, exerts greater control and management of the task. Ayan manages the task physically: turning the pages of the book and transferring the 'driver' back and forth between the girls. She also prompts for a reading cue, e.g., tapping her finger on the word. Finally, we found that Ayan is a more active participant in the summary/comprehension discussions prompted by Bigelow, with Ayan participating in three out of four of these, and Aisha only once.

3.2. Participation structure 2 (story pages 6-11)

The first participation structure was quite slow. The girls worked for more than ten minutes to read just five pages. After page six, they moved into the second and more expedient participation structure, where each girl read two pages in turn (see Table 2, where shading again indicates who read each page).

Table 2: *Overview of participation structure 2*

Page of book	7	8	9	10	11	totals
Aisha outloud reading and suppliances received	1	-	-	-	-	1
Ayan outloud reading and suppliances received	-	-	1	23	-	24

Here Aisha still provides extensive word suppliances and supports Ayan's decoding through shadow-reading, or at times simultaneous, voice-over reading. Bigelow, in turn, provides no word suppliances. As evident in Excerpt 2, the girls move into this new structure with no discussion or meta-commentary about the task.

Excerpt 2

Time	Turn	Participant	
10:09	1	Aisha	grandma spider come to the porch with a large pitcher of fresh lemonade. and called to him. anansi, here is a cool drink for you.
10:30	2	Aisha &	grandma. spider. came. to:: the porch. with. a large

		Ayan	pitcher of fresh lemonade and called to:: him. anansi, here is a cool. drink. for. you. [words read one by one then they move to next page]
11:06	3	Aisha	thank you grandma. as he drank the cold, sweet
11:17	4	Martha	lemonade.
11:19	5	Aisha	lemonade. I'm making. your favorite meal said grandma. I am cooking spicy beans. they'll be ready soon for our lunch
11:38	6	Martha	what happened ayan? [Ayan pounds desk lightly with her fist.]
11:42	7	Ayan	[unintelligible, pointing at the pictures] anansi
11:50	8	Aisha	[unintelligible] drink
11:56	9	Martha	good.
11:59	10	Ayan	thank you. [laughing] [Ayan misses her turn to read and the girls turn the page]
12:11	11	Aisha	I love your spicy beans. said anansi he finished his lemonade and went back to his work. grandma spider returned to the kitchen.
12:31	12	Ayan	[she's moving the driver herself and following along with her finger at the same time] grandma. spider. looked. for her bean spices, but the tins were empty. she called anansi I need spices. I must ... (2 sec.) go to the mar...(2 sec.)
13:17	13	Aisha	market.

Aisha reads page five, and then Ayan immediately moves to page six, a change in the established protocol. Rather than being supplied words one by one, Aisha reads in tandem with Ayan. They continue this pattern of taking turns reading until the end of page seven (line 5), when Bigelow prompts them for a comprehension discussion (line 6). Here, Ayan lightly pounds her fist, perhaps realizing the established pattern has been violated, or perhaps, as suggested by her laughter and 'thank you' (line 10), that she has found a way to get through reading more quickly and minimize the amount of reading she will need to do. The girls continue this back and forth reading pattern for 5 pages. Notable here is that they move into reading two pages each prior to switching reader roles. They take turns seamlessly with few prompts, albeit with little evidence of enjoyment.

3.3. Participation structure 3 (story pages 12-16)

At page 12 and continuing through page 16 of the text, the girls initiated a new participation structure, wherein Ayan reads outloud, with help from Aisha and from the Educational Assistant, Jane (Table 3).

Table 3: *Overview of participation structure 3*

Page of book	12	13	14	15	16	Totals
Aisha outloud reading and supliances received	-	-	-	-	-	0
Ayan outloud reading and supliances received	-	2	4	5	-	11

Here Ayan takes over oral reading and has full physical possession of the book, and driver, and is pointing with her fingers as she moves through the text. At the same time, Aisha begins to look at the accompanying worksheet for this task and attends less to Ayan's quiet but still vocal, reading aloud. Excerpt 3 shows what happens when Jane disrupts the girls' pattern of uninterrupted reading of larger segments of text by inserting attempts to draw Ayan's attention to how some of the words were pronounced or sounded out (e.g., 'slu::rped, like ahhhhh, slu::rped' 'taste is t-t-t-t').

Excerpt 3

Time	Turn	Participant	
19:22	1	Ayan	anansi bl...(1 sec.)
19:23	2	Aisha	Blew
19:24	3	Jane	blew [pointing to the word]
19:26	4	Ayan	blew on the hot beans and tasted them. ahhhhhh he slur,
19:50	5	Jane	slu::rped, like ahhhhh, slu::rped.
19:57	6	Ayan	he. spooned and blew. slurp..slurp...he spooned
20:09	7	Aisha	spooned.
20:10	8	Ayan	spooned and blew and slurped up
20:16	9	Aisha	spoonfuls.
20:17	10	Ayan	spoonfuls of the beans
20:24	11	Martha	what happened?
20:29	12	Ayan	[pointing to the pictures] happened eat. anansi. up the beans. that's it.
20:34	13	Jane	what's he doing here what action is that? [pointing to

			picture]
20:39	14	Ayan	the beans. slurp the beans. slurp the beans.
20:44	15	Jane	taste is t-t-t-t
20:45	16	Jane	what's this? [EA makes sound of blowing]
20:48	17	Ayan	hot.
20:49	18	Jane	blowing?
20:50	19	Ayan	Blow
20:51	20	Jane	blew. good.

As Ayan is working her way through page 15, Aisha provides three individual word supplants here: 'blew' (turn 2), 'spooned' (turn 7), 'spoonfuls' (turn 9). In contrast to other participation structures, Jane also supplies words (e.g., 'slurped' turn 5, and 'blowing', turn 18). Jane also inserts herself more fully into the interaction, for instance, by acting out a potentially confusing word 'slurped' (turn 5) and quizzing for meaning (turn 16). This sequence of multiple interruptions diverts the girls' attention away from the story-reading task. These interruptions may be a fruitful support for Ayan, who is still learning the correspondence between sounds and letters, but Aisha would benefit more from silent reading which focuses on comprehension, as seen in Excerpt 3 below. However, notable in this participation structure is the same pattern of Ayan controlling the task and using the resources at hand (Aisha, Jane, the driver, her fingers) to continue towards task completion.

3.3. Participation structure 4 (story pages 17-32)

The final structure is established at page 17 of the text, when Ayan and Aisha begin parallel independent reading. Here (see Table 4), word suppliance is reduced for Ayan, as the pressure to complete the task increases and the girls begin to co-read.

Table 4: *Overview of participation structure 4*

Page of book	17-34	23	24	25-30	31	32	Totals
Aisha outloud reading and supplants received	-	-	-	-	-	-	0
Ayan outloud reading and supplants received	-	-	2	-	1	-	3

Aisha and Ayan use their respective strengths, namely Ayan's task management skills, and Aisha's oral reading fluency, to complete the book

reading. As evident in Excerpt 4 below, Ayan, while not the dominant reader, pushes to complete the reading.

Excerpt 4

Time	Turn	Participant	
21:51	1	Ayan & Aisha	[reading with Aisha] Anansi, took off his hat and filled with steaming beans
22:16	2	Aisha & Ayan	as he put the lid back on the beans he. heard. shouts. from the
22:35	3	Ayan	hey! why looking at this one?
22:37	4	Aisha	[laughs]
22:39	5	Ayan & Aisha	... the garden. hey hey hey hey get out of grandma spider's garden
22:52	6	Ayan & Aisha	anansi saw a flock of birds eating the beans he had just planted. some of the neighbors were, waving, and yelling. the scared birds flew through the open kitchen window. the neighbors ran to the porch and pounded on the door. get out of grandma's kitchen you nasty birds! anansi, let us in to help you [slow decoding word by word]
23:50	7	Ayan	to help you [Ayan turns over the driver to Aisha]
23:56	8	Aisha	[clearly and fluently] anansi didn't know what to do. he had to hide the beans. anansi let us in the neighbors yelled. the birds screeched and flapped and anansi looked around quickly. anansi did the only thing he could think to do. he pulled the hat full of hot beans on his head and opened the door. [Ayan taps on the page]
24:35	9	Martha	she wants you to go fast. [laughter]
24:39	10	Aisha	the neighbors come in yelling and sc...(1 sec)
24:48	12	Martha	Screaming
24:52	13	Aisha	screaming and chasing out the flapping birds
24:56	14	Martha	flapping birds [Ayan is turning pages, using the driver, and pointing to the words for Aisha to read. Ayan is subvocalizaing]
24:58	15	Aisha	flapping birds.

Ayan and Aisha engage in mainly independent but overlapping reading. Aisha is the more audible reader but both girls engage with the text. What is

very salient here are the ways that Ayan pushes Aisha to read aloud and to continue to focus. For instance, at turn 3, she says to Aisha, whose attention has shifted to the worksheet, “hey why you looking at this one?” in an attempt to redirect Aisha’s attention to the book, and to continue to receive support. Ayan’s question is really a request for Aisha to move back to the reading task. It is also notable as the first explicit comment about task management, and one of the few authentic, spoken interpersonal exchanges between them.

Aisha and Ayan continue to read in tandem, with Ayan ‘driving’ via the colored paper, following the words together and with overlapping, but generally synchronized voices, until turn 7, when Ayan turns the driver over to Aisha. This seems to serve as a cue for Aisha to read more audibly and independently. Her pace quickens but Ayan also continues to read and follow along, moving her lips as she decodes, subvocalizing. At page 22, Ayan taps the page, prompting Aisha to increase her pace, a message confirmed by Bigelow (turn 9). Ayan takes control again of the driver and manages the task more directly by turning the page, moving the driver, and pointing to words for Aisha to read, as Ayan follows along subvocalizing. They continue in this manner to the close of the text.

4. Discussion

How do the two participants with vastly different literacy levels engage with the task and support each other’s engagement towards task completion (Research Question #1)? Our analysis shows that the book, and the goal of finishing the book, was an overwhelming mediating factor in the type of peer interaction that occurred. As the interaction was tightly focused on decoding the written text (Ayan sounding out words), there was little negotiation for meaning. This decoding work, coupled with reading aloud produced word supplants when the reader paused or prompted. This limited focus on decoding might be due to the participants’ desire to push toward task completion without the need for confirming or checking comprehension. Or, if there was comprehension of the text, the participants possibly assumed they shared the same interpretation of the text and did not necessarily need to clarify or negotiate the meaning of the text. The reading comprehension checks by Bigelow (e.g. *What happened?*) also offered few opportunities for this dyad to focus on or negotiate meaning. However, while the task was not helpful for participants to practice comprehension, it may have been a way to review a text already read, to practice a procedure for learning to read (partner reading), or to practice decoding.

Overall, in terms of developing literacy skills, we found that Ayan and Aisha's participation in the task was likely of little benefit to either. This is partly due to the design of the instructional task. For both learners, the *Anansi* text was not an optimal choice for fostering meaning-making literacy skills. If the girls had read this book independently, they each would have likely spent very little time with the text – it was too easy for Aisha and too difficult for Ayan. The classroom setting of this task might have leveraged the participants' desire to participate in literacy activities, and the commitment they seem to have to each other to complete assigned tasks, and potentially to further develop their literacy skills. Nevertheless, neither student was equipped to optimally support the development of reading skills in the ways that an expert teacher might; this includes providing support with meaning making, print decoding, and structure. Successful completion of the task required very little meaning making or opportunities for learning; Ayan and Aisha were busy, 'on-task', and compliant with teacher directions, but this work was unlikely to promote English reading skills.

Within a sociocultural or Vygotskian framework, human action is directed or mediated by motives, and arises out of need, all within intersections of social relationships and cultural phenomenon. If we conclude that the partner reading activity did little to help Ayan and Aisha learn to read in English, then we need to explore other motives or needs that the task fulfilled. Perhaps they needed to act like a reader and be part of a classroom of students who are learning English and learning to read. Perhaps they felt obligated to each other or to the researcher with the camera. Perhaps the feeling of participating as requested by the teacher reveals Ayan and Aisha's trust in the teacher and their belief that by following the teacher's instructions, they will be successful in the class, and presumably in school. While all of these motives were likely in play, this analysis highlights the hard work that many language learners do, often without clear motives or well defined learning objectives. The learners in this activity would have benefited more from level-appropriate silent reading, or a clearer purpose for reading, for example.

Also important here is the impact of asymmetrical pairing on interactional patterns and their potential impact on learning. We found that while there was little negotiation for meaning, there was a great deal of collaboration in setting up roles, participation structures, and work towards task completion. The four different participation structures allowed for different interactional moves and roles, in response to task and material constraints as well as their own skills and strengths.

What varied roles and participation structures are created as the two participants work on the task (Research Question #2)? Across the four

structures Aisha took on the role of 'expert decoder' by reading fluently, supplying words for Ayan, and voicing decodes more audibly during parallel reading. Ayan took the role of 'expert task manager'. She prompted Aisha to stay focused; issued indirect requests for suppliance of words she needed; offered meta-comments about the task; maintained physical control of task resources (e.g., pointing to words), and participated in comprehension discussions. Ayan's strengths were in 'doing school', that is, in figuring out how to complete requirements which might, or might not, involve learning but always involve some sort of busy work (e.g., doing a worksheet) (see Bigelow & King 2014). Ayan was clearly the weaker reader but had a more dominant personality during the interaction. Although Aisha has much more extensive previous experiences with literacy, her way of interacting with Ayan was more accommodating and even passive at times.

How do the participants' respective literacy, linguistic, academic, and social strengths and challenges shape how this peer interaction unfolds and the learning opportunities therein (Research Question #3)? Our analysis complicates the notions of 'expert' and 'novice' and the potentially complementary strengths of learners. For instance, in these data, we saw how the more 'novice' reader (Ayan) managed the task, while the 'expert' reader accommodated to a particular reading style. These findings also highlight learners' own agency in figuring out how to complete tasks in a way that works for them when no further instructions or guidance were offered. These data also provide an example of the fluidity of interactional structures within one naturally occurring classroom literacy task, and serves as a reminder of the creativity of students in determining how to complete a given task and the wide variation in how this might be accomplished. Finally, despite being a requirement of the task, there was very little comprehension discussion, a fact which calls into question how meaningful that part of the task was, and pushes us to consider other ways in which this might have been structured. The learners, as inexperienced readers, might not have invested in the comprehension portion of the task, but rather in the goal of completing the task, given the absence of any other purpose set out for them to read this story.

5. Conclusion and pedagogical implications

Peer interaction has been an important construct within the field of language teaching and learning because of its potential to maximize classroom language learning by engaging learners in language use, problem solving, and higher order thinking. Language teachers often strive to increase the amount of

learner interaction in their classroom. This can be accomplished with supportive or scaffolded teaching practices, such as breaking tasks into phases with pre-teaching key lexical or syntactic structures, offering models of outcomes, task repetition, and offering learners clear instructions for how to work together, as well finding and communicating an authentic purpose for doing the task.

We maintain that it is possible for there to be learning benefits for both members of an asymmetrically paired dyad; however, our analysis here suggests that this particular partner-reading task did not facilitate literacy acquisition for either student. There are glimmers of amusement in the transcript, but for the most part, the participants completed the task by going through the motions of the task without visibly making much meaning from the text. How could it have been different? Ayan would have benefitted from a text that would allow her to recognize a much higher percentage of words and to engage common emergent reading strategies such as combining beginning sounds with picture clues and context clues, both of which have the potential to help her become a fluent reader. Aisha would have benefitted from a different, more advanced text, and the opportunity to read silently with a clear purpose in mind.

Pedagogically, the partner reading task did serve other purposes besides practicing reading aloud. There were opportunities for both Ayan and Aisha to help assist each other enacted multiple roles and identities throughout the task. With a great deal of effort, they were able to have the satisfaction of completing the task, even if this was mainly symbolic and not maximally beneficial to either of them. Perhaps this outcome was possible because Ayan and Aisha agreed to work collaboratively and this could contribute in some way to their self-efficacy as students. In other words, the participants might not have improved their literacy skills by participating in this activity, but they were likely to have felt satisfied and affirmed by their participation in the activity, as members of this classroom community.

To maximally engage and motivate learners, the reading activity should be more authentic and purposeful. Many and varied reading opportunities that are collaborative, multilingual, and individual would likely offer Ayan and Aisha the avenues toward rich classroom literacy experiences. The students would benefit from further opportunities to read level-appropriate texts across many genres and those that are high interest to them, such that their participation in literacy learning activities will contribute to their sense of being readers, good students, and valuable members of the classroom community.

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Appendix: Transcription conventions

CAPS	spoken with emphasis (minimum unit is morpheme)
.	falling intonation at the end of words
,	rising intonation at the end of words
?	rising intonation in clause
->	continuing or flat intonation (as in lists)
!	animated tone, not necessarily an exclamation
::	elongated sound
[]	transcriber's comment
... (.x)	pause and estimate of length

MIGRANT PARENTS AND THEIR VIEWS ON LANGUAGE AND PARENTAL INVOLVEMENT: THE IMPACT OF AN EMBEDDED LANGUAGE COURSE

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Abstract

The Parents in (inter)Action (PiiA) project was established in 2007 in a number of Flemish¹ cities and communities, with the aim of breaking down barriers between migrant parents and their children's school. It is an embedded Dutch as a Second Language (DSL) course for migrant parents, based in the primary school that their children attend. The project is run in partnership between the Centres for Adult Education and Basic Education that offer DSL courses and the primary schools. The PiiA concept was developed by the Centre for Language and Education at the University of Leuven. The positive evaluation that the project received following its first year, along with the positive experiences of the teachers (Colpaert and Strobbe 2009), demonstrated that its main goals had been achieved. However, to gain added insights, the Centre for Language and Education sought to gauge the parents' views on the PiiA course and its impact in greater depth. This article highlights the results of the interviews we conducted with 66 parents (45 LESLLA learners).

Keywords: embedded L2 course, parental involvement, primary school, migrant parents, qualitative study

1. Parents in (inter)action: A short overview

Parental involvement is widely seen as a key determinant of children's school performance. Recognising that language and communication are often obstacles in the interaction between the school and parents, and in parental participation (Samae 2006), PiiA sets out to enhance language proficiency and reduce barriers between schools and parents. It focuses not only on the obstacles that parents experience, but also the barriers that schools and their staff create for parents, often unintentionally and unconsciously. Hence, the objectives of PiiA are twofold: on the one hand, to increase parents' language skills and decrease the

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barriers they experience with regard to the school; and on the other, to decrease the barriers and the language requirements that the school imposes on the parents. Taken together, these objectives serve the ultimate goal of enhancing children's chances at school, parental involvement being a key determinant of a child's development (Bakker et al. 2013).

To achieve this goal, the Centre of Language and Education at the University of Leuven developed the PiiA project's core elements: embedded language lessons at the children's school and the organisation of an event by the PiiA group. The central ideas were: (1) to encourage parents to participate in the school community through participation in a safe environment, i.e. the PiiA group; (2) to learn Dutch through participation, rather than stipulating the learning of Dutch as a condition for participation; (3) successful communication as a shared responsibility between the parents and the school. As a practical expression of this, the language course gave parents the opportunity to learn core language skills based around the specific school context. In that regard, a sustainable range of language tasks was planned for the parents, through a process that involved close interaction with the school staff and organising the event. This guaranteed the necessary degree of interaction and communication between the school and the parents.

Skills such as reading letters, asking for information, and filling in forms were adapted to the context of the school and the participants' children. The PiiA group members learned, for instance, how to read the school's official letters, ask their children's teacher for information, and fill in a form issued by the school. They also visited their children's classroom to observe a lesson, ask questions and search for information. The event organised by the parents was undertaken at a whole school level. This featured, for example, a healthy breakfast, an exhibition in the entrance hall, or a photo contest where the parents had to collaborate with other parents, school staff and children. Through these embedded language lessons and events parents learned not only how to communicate with the school, but also gained a better knowledge of the school and academic life. The school, for its part, gained a better knowledge and understanding of the parents and those aspects of communication that gave them difficulties.

Since 2007, PiiA groups have been organised in various communities and cities across Flanders. Currently, there are several such groups, mostly concentrated in the city of Antwerp, where, in an average year, there are fifteen PiiA groups. Although precise numbers are not available for the rest of Flanders, there is at least one PiiA group in operation each year. The main difference between Antwerp and the rest of Flanders is that Antwerp's city administration supports the project and coordinates the running of individual PiiA groups.

Despite this central coordination, most groups are heterogeneous, in terms of the levels of participating parents' education and language proficiency. Although the PiiA course is designed at the A1 level of the Common European Framework of Reference for Languages (Council of Europe 2001), all parents wishing to learn Dutch in the context of communication with the school may participate. As a result, PiiA groups contain participants with differing levels of proficiency. Low- and high-educated parents attend the course together, but separate groups are sometimes created for participants who are LESLLA learners or non-literate. All participants are offered a PiiA course that runs for one year. If they wish to pursue Dutch lessons thereafter, they must then follow a regular DSL course at a Centre for Adult Education or Basic Education.

2. Research: giving parents their say

In the 2011-2012 school year, exactly five years after the first PiiA groups started, the city of Antwerp funded a study to determine the impact of its local groups. Rather than asking teachers, school heads, staff, or policymakers, the decision was made to give the parents their say and gain their impressions about the PiiA project. A qualitative research programme was undertaken, based on semi-structured interviews with parents who had attended a complete PiiA course, i.e. a whole school year, during the period from September 2007 to June 2011. Its aim was to determine whether or not the parents felt that the PiiA project had met its objectives. It focused on three specific questions:

1. Has PiiA contributed to a change in parental involvement?
2. Has PiiA contributed to an increase in the parents' language proficiency?
3. Has PiiA contributed to making the school more accessible to the parents?

Over the five school years, a total of 586 parents had taken one year's PiiA at a school in Antwerp. At the start of each year an intake event was organised for interested parents, at which the aims of PiiA were explained and basic background information was gathered. During the intake process, the learners were categorised into three groups: non-literate, low-educated (less than ten years of schooling) and higher educated. Based on the profile of the majority of the parents at the school, a teacher from a Centre for Basic Education or a Centre for Adult Education was assigned to the group.² When referring to LESLLA learners in this study, we mean parents belonging to 'non-literate' and 'low-

educated' groups, on the basis of information provided at the intake event. 330 of the 586 were LESLLA learners. We interviewed 66 parents, 45 of whom were LESLLA learners (19 non-literate and 26 low-educated). In the semi-structured interviews, parents were asked questions about their levels of involvement and language proficiency.

The questions about parental involvement recognised its multi-dimensional nature: they included knowledge-based, emotional, belief, competence and behavioural issues. Parental involvement is manifest in both the home and school environments. It encompasses giving information (by the school and the parents) as well as the participation or involvement of parents at a policy level: schools and parents together realise parental involvement (Boeraeve and Van Rijn 2010; Cijvat and Voskens 2008; Deboutte 2004; Samaey and Vettenburg, 2007). The questions about language proficiency focused on situations where it is common for schools to communicate with parents and vice versa. These language-use situations form part of the PiiA curriculum (Leerplan NT2 – R1 School en Ouders 2012). Examples of these language-use situations include: enrolling your child; following up the school report, timetable and homework; participating in parents' meetings and school activities; reporting your child's absence; and conversing with your child's teacher and other parents.

In the first instance, parents were asked about the current situation, having regard to each topic about parental involvement and each language situation: *How are things now?* Secondly, the questions focussed on the difference between the periods before and after PiiA, and on the influence of PiiA as perceived by the parents: *Can you see a difference between the time before and after PiiA? Did PiiA change anything?* Along with these two topics, some additional background information was gathered: personal details (age, schooling, profession, number of children) and information about the participant's PiiA-group (year, school, PiiA teacher). The interviews were mainly conducted with the parents at home, or occasionally at their children's school, according to their choice. Depending on their language skills, the interviews were conducted in Dutch, French, English, or the parent's native language. In the latter case, use was made of an interpreter.

All interviews were transcribed. When analysing the responses, we focused on the changes in language proficiency and parental involvement cited by the parents and the links they explicitly made between these changes and PiiA.

3. Results

Of the 66 participants, 56 (including 37 LESLLA learners, of whom 17 were non-literate and 20 low-educated) reported that PiiA had made a positive difference to their language proficiency and level of parental involvement. These parents said that the changes were a direct consequence of their participation in PiiA. Notably, these changes covered several aspects of the communicative relationship between parents and schools: they ranged from informal contact about activities for parents at the school to gaining an understanding of the school rules. For the remaining group of ten parents, PiiA brought no changes. In the following section, we will attempt a more detailed explanation of the specific differences PiiA made and the numbers who benefitted from these (including LESLLA parents). Additionally, we will assess the reasons why PiiA made no difference for some parents, along with the impact the project had on participants' communication outside the school and on the next stage of their DSL-trajectory (see also Drijkoningen 2012).

3.1. More and better communication and contact between parents and school

Among the 56 parents for whom PiiA made a difference, the changes related to different aspects of communication and participation in the school context. Although, by way of a generalisation, these parents all experienced more and better communication and contact, the outcomes varied in relation to more specific aspects. We shall now focus on these in more detail.

Verbal contact with teachers (LESLLA parents in brackets)

Parents can have several types of contact with their child's teacher: those that are more formal, e.g., attending a parents' meeting, and those that are more informal, such as face-to-face conversations about an event at home or chatting at the school gate.

In the interviews, 55 (36) parents cited informal forms of contact, and 47 (32) referred to attending a parents' meeting. 45 (28) felt that PiiA had helped them gain - and retain - a better quality of informal contact, but for 4 (3) this improvement had only lasted during the PiiA year, and 6 (5) reported no impact whatever. With regard to attendance at parents' meetings, 33 (22) said that PiiA had made a positive impact (see Table 1).

Table 1: *Impact of PiiA on verbal contact with the teacher*

		During PiiA and retained to date	During and after PiiA only	No impact
Informal contact (n=55)	LESLLA-parents			
	- Non-literates	13 (23.6%)	3 (5.4%)	1 (1.8 %)
	- Low-educated	15 (27.2%)	0	4 (7.2 %)
	Other parents	17 (30.9%)	1 (1.8%)	1 (1.8%)
Parents meeting (n=47)	LESLLA-parents			
	- Non-literates	11 (23.4 %)	1 (2.1%)	4 (8.8%)
	- Low-educated	10 (21.2%)	0	5 (10.6%)
	Other parents	12 (25.5%)	0	3 (7%)

For many parents, PiiA marked a turning-point. Prior to the course, they did not have any contact with their child's teacher. During the course they had their first-ever contact with them, and after completing PiiA they had maintained this verbal contact. The content and extent of this dialogue varied, ranging from small informal conversations to discussions about more complex matters. Even for those parents who already had contact with the teacher before PiiA, the course brought changes. They now have more contact with the teacher, and speak more Dutch, instead of French or English or relying on the help of a translator. In addition, they now meet the teacher themselves instead of in the company of their partner or child.

Parents mentioned different reasons for these changes. In the first instance they cited increased language proficiency. PiiA taught them what they could ask and how they could formulate this. A better understanding of the school was also an important element. Parents got to know the school staff, where the classes are located in the school building, and how the parents' meeting is organised. In addition, they spoke of the added confidence the PiiA teacher had given them in making contact with their child's teachers. Through the medium of tasks during their course, where parents had to approach their child's teacher, the PiiA teacher provided the necessary impetus to let this contact develop. At the same time, the children's teachers got to know the parents better. The parents found that the teachers tried to speak more Dutch and engage in more conversation with them. Not only that, the teachers appeared to be more patient and encouraging when the parents attempted to converse with them in Dutch. All of these elements gave the parents greater confidence in making contact and communicating with the teachers and positively changed the quality of that contact.

Written communication at the school

The business of dealing with written communications embraces many aspects. These include writing letters, filling in forms and reading a variety of texts: letters from the school, the academic diary (and follow-up action on homework) and their child's school report. In the interviews, 49 parents spoke of being able to 'understand letters', 39 about 'reading the school diary and following up on homework', 35 about 'understanding their child's school report' and 47 about 'writing a letter and filling in a form'. The majority said that the impact of PiiA had been positive (see Table 2). They reported that they now follow up on written communications from the school. Many did not even look at these before they enrolled in the course. They understand now what is written and how important it is to follow it up. After following PiiA, the parents now read and write more fluently and independently: previously, they needed the support of someone else. They are now able to understand the content of school communications and the response they need to make and can sometimes fill in a form or write a short message unaided.

Table 2: *Impact of PiiA on dealing with the written communication with the school*

		During PiiA and retained to date	During and after PiiA only	No impact
Understanding letters (n=49)	LESLLA parents			
	- Non-literates	8 (16.3%)	2 (4%)	5 (10%)
	- Low-educated	15 (30.6%)	0	1 (2%)
	Other parents	14 (28.5%)	0	4 (8.2%)
Understanding diary (homework) (n=39)	LESLLA parents			
	- Non-literates	9 (23%)	3 (7%)	0
	- Low-educated	12 (30.7%)	0	0
	Other parents	8 (20.5%)	0	7 (18%)
Understanding school report (n=35)	LESLLA parents			
	- Non-literates	11 (31.4%)	0	2 (5.7%)
	- Low-educated	11 (31.4%)	1 (2.8%)	1 (2.8%)
	Other parents	5 (14.2%)	0	4 (11.4%)
Writing a letter and fill in a form (n=47)	LESLLA parents			
	- Non-literates	6 (12.7%)	3 (6.3%)	2 (4.2%)
	- Low-educated	14 (29.7%)	0	2 (4.2%)
	Other parents	14 (29.7%)	3 (6.3%)	3 (6.3%)

Clearly, the extent to which parents can understand the written texts, what they are able to write, and how independently they can do this, relates directly to

their level of literacy. After completing PiiA, the more literate parents can understand letters from the school (if they are not too complex), the timetable and their child's school report. They can now also write a short note and fill in a form. The less literate parents, the LESSLA learners, reported that they learned strategies for reading, namely, deciphering the meaning of a letter, determining whether it is addressed to them, and recognising the date and their name or the name of their child. They have learned how, independently, to identify in the timetable whether or not their children have homework to do. They can also understand from their child's school report whether or not s/he has been doing well. Some of them can now successfully fill in the basic personal data in a form.

Along with increased language proficiency and a greater awareness of the school and its procedures as a result of PiiA, the course participants find it particularly important that they now possess a better understanding of the school's written communications. By using examples of these communications as *realia* in their PiiA-lessons, parents came to understand what is being conveyed in such letters. They learned what subjects are taught at school, thus giving them a better awareness of the school timetable and their children's report in which these subjects are listed. With respect to the school report, PiiA focused on how results are set out, and what the grades and teachers' remarks mean. Taken together, this helped the parents to engage more effectively with the school's written communications.

Understanding the rules and internal organisation of the school

The PiiA parents reported a wide range of matters that they now understand with respect to school regulations and governance. Because PiiA focused on these aspects and incorporated them in language tasks, the parents were able to accumulate a body of related knowledge and skills. As previously highlighted, these insights greatly contributed to a better level of communication between the parents and the school. At the same time, knowing and understanding how the school, and education in general, is organised, gave the parents a better appreciation of what the school expects from them. They said that, thanks to PiiA, they now know what to do when their child is absent or sick; how and how much they have to pay for food or drinks at school; what is prohibited and what is permitted. This clearly reduces misunderstanding and builds better relationships between parents and the school. It is important to note here that many parents reported that, before enrolling in PiiA, they had not been told about the school rules. Twenty seven of them referred to the school rules, of which 19 said that they learned about these through the PiiA course, as against 8 who said that they had been informed of these by the school (see Table 3). Whatever the reasons for this, it is important for schools to be aware that many

parents will not know the rules or understand the school system. This may in turn affect the relationship between the school and the parents, and the level of parental participation.

Table 3: *Impact of PiiA on understanding the rules and organisation of the school*
(n=27)

	Informed through PiiA	Informed by the school
LESLLA parents		
- Non-literates	5 (18.5%)	4 (14.8%)
- Low-educated	9 (33.3%)	1 (3.7%)
Other parents	5 (18.5%)	3 (11.1%)

Attending parents' activities at school

Because the interviews were so wide-ranging in aspect and outcome on this topic, our research did not yield clear conclusions as to whether or not PiiA has a positive impact on the level of parental participation in school-based activities. However, some general trends were revealed. The PiiA course was, for many parents, their first visit to their children's class - this despite the fact that they felt such visits were important. Our data did not show any clear proof that, following PiiA, parents are continuing to make class visits. Another trend is that, although the schools in question regularly organise a wide range of activities, on those occasions when they ask for parental assistance, this is mostly limited to simple requests, such as providing an item of food. The schools rarely plan activities jointly with parents or seek their assistance in running them. Although the PiiA participants played an active and leading role by organising an event during their course, the schools in question no longer seek the parents' co-operation in similar initiatives.

Contact with other parents

In terms of attendance at school activities, the data is unclear as to whether PiiA has an impact on the level of contact the participants have with other parents at the school after completing the course. PiiA aims to foster contacts between parents, and specifically, between course members and their Dutch-speaking counterparts. This furthers the ultimate aims of creating a working network for all parents at the school and improving migrant parents' language proficiency through maximising opportunities for social contact. As PiiA is only a one year course, more practice is needed for participants to improve their Dutch language skills. Some of the parents said that they now have more contact with other

parents than before they enrolled in PiiA, but it is not clear whether this contact is conducted in their own language, a contact language or in Dutch. The majority, however, already had many contacts with other parents before taking the course. Their responses, however, do not explicitly reveal whether PiiA helped participants make more contacts with other parents, or speak more Dutch. While our evidence demonstrates that a wide range of contacts exist between the parents at their children's school, it cannot therefore be deduced that PiiA has succeeded in creating a network between migrant and Dutch-speaking parents after the former have completed the course.

3.2. Reasons for non-impact

For ten participants in the study (including eight LESLLA-learners, two of whom were non-literate and six low-educated), PiiA produced no major changes in their level of communication or other forms of involvement with their children's school. This does not, however, mean that they learnt nothing or were dissatisfied by their experience. They picked up some words, learnt to write a little, went to visit their children's class for the first time, and so on; but the differences before and after attending PiiA were too limited for them to demonstrate clear progress or secure a lasting change after finishing PiiA.

We have identified several reasons for this lack of impact. Five (four LESLLA) parents were already capable of reading letters, understanding school reports and the timetable. They also engaged their children's teacher in conversation and attended parents' meetings. But they found that the PiiA lessons were too easy. Some had previously taken DSL courses and therefore had enough knowledge of Dutch to communicate with the school and involve themselves in its activities. Hence PiiA did not make a significant difference to them. The other five (four LESLLA) parents did not have any contact with the school, either before or after PiiA. While taking the course, they involved themselves in school affairs, but on completion, they stopped participating in school life. Letters from the school are still read by their partner; and they no longer attend parents' meetings or other activities. The course did not give them the necessary level of confidence and assertiveness. They are still afraid to make contact with the teachers and visit their children's school. In essence, then, the PiiA experience was too short for some and too difficult for others to make a lasting difference.

3.3. Impact on the outside world of the school

Although PiiA is an embedded L2 course, where language tasks are based on communication and involvement between parents and their children's school, 33 participants (26 LESLLA) reported a series of positive learning outcomes beyond the school environment (see Table 4). They experienced differences in the quality of their daily lives, which they then fed back into their PiiA course. Firstly, they can now understand and communicate more in a variety of daily contexts, for instance, when shopping, at the doctor's and other situations involving the National Health Service, at the town hall or at the bank. They can read the prices of items, make an appointment and exchange goods in a shop. Secondly, the parents can for the first time understand several key aspects and rules of daily life, such as how to catch a bus or make a bank transfer, the sum of money they need to pay for a particular item and so on. PiiA has brought them more independence, not only in the school, but also in the street. Before enrolling in PiiA, many of these parents were forced to rely on family or friends, but now they can and will do these things for themselves. They have become sufficiently confident and assertive to speak Dutch and make social contacts.

Eleven parents (including seven LESLLA learners) found that pursuing a PiiA course had made no impact on their daily lives (see Table 4). In some cases, this was because they could not transfer what they had learned in the context of their children's school to their everyday lives. Other parents stated that they did not need Dutch outside the school. They rely on relatives or use another language: their native or a contact language.

Table 4: *Impact of PiiA on communication in daily life (n=44)*

	Yes	No
LESLLA parents		
- Non-literates	13 (29.5%)	5 (11.3%)
- Low-educated	13 (29.5%)	2 (4.5%)
Other parents	7 (15.9%)	4 (9%)

3.4. Parents in (inter)action in the L2 trajectory

The main goal of PiiA is to enhance communication and parental involvement in the context of their children's school. It also seeks to contribute to the L2 trajectory of migrant parents. Firstly, PiiA aims to reach foreign speakers who do not access regular DSL courses, which address a wide range of topics that are

important to daily life, independent of the learner's specific needs. These courses are, however, often organised at places and at times that are difficult for participants to combine with taking their children to and from school. Through courses that take place during school hours in their children's school and which are based on content that really matters, PiiA aims to tailor itself to the needs and aspirations of migrant parents. Secondly, PiiA actively encourages parents to continue taking courses in Dutch. As previously mentioned, the PiiA programme covers a single school year. If the migrant parents wish to learn more Dutch they have to take a course in another location: at a Centre for Adult Education or Basic Education or with a voluntary organisation.

Regardless of the differing impacts on participants that we have outlined to date, it is clear that PiiA plays a key role in their L2 trajectory. 32 of the 66 who participated in this study reported that PiiA was the first DSL course they had ever taken. 39 parents enrolled on further Dutch courses after completing the PiiA programme (see Table 5). Of the 34 parents who had started a Dutch course on a previous occasion, eleven had abandoned their studies after a very short time. PiiA was the first Dutch course they had seen through to completion. For 12 of this group of 34, PiiA marked a new beginning in their L2 trajectory: there had been a gap of between four and eleven years since their previous Dutch courses. We can therefore conclude that, even for those parents who had already participated in DSL courses, PiiA encouraged them to pursue their studies to completion for the first time or restart a DSL courses after many years of absence.

Table 5: *The role of PiiA in the DSL trajectory (n=66)*

	Only PiiA	PiiA → DSL course	DSL → PiiA	DSL → PiiA → DSL
LESLLA parents				
- Non-literates	2 (3%)	10 (15.1%)	4 (6%)	3 (4.5%)
- Low-educated	7 (10.6%)	3 (4.5%)	6 (9%)	10 (15.1%)
Other parents	4 (6%)	6 (9%)	4 (6%)	7 (10.6%)

4. Conclusion

In this qualitative study, 66 parents, including 45 LESLLA learners, were interviewed about the embedded Parents in (inter)Action language course, based in their children's school. They were asked about the impact of PiiA on

their language proficiency with regard to their level of communication and wider involvement with the school.

For a minority, PiiA made no impact. For some, PiiA gave them no new knowledge or skills. They already knew what was needed in order to communicate with the school and participate in its activities. For others, the course was too short or too difficult to help them tangibly improve their level of contact and communication with the school.

For a majority of the parents, however, PiiA marked a turning point. After completing the course, the level of their participation and communication had improved, both qualitatively and quantitatively. This was due not only to better language proficiency on the parents' part, but also, to moves towards greater accessibility by the school. Here it is important to stress that the positive impact was not limited to the period during or immediately following the PiiA course, but has been sustained for several years thereafter.

By focusing on different events and aspects of school life and children's education, in which the roles of communication and contact are important, PiiA enhances the level of parental participation. Parents take follow-up action on the school timetable and written communications; they attend parents' meetings and converse with their children's teacher; they understand their children's school report, and so on. The parents point to their increased language skills as a reason for this success. Moreover, they report a better understanding of the school: its organisation, rules and conventions, the meaning of its written communications, expectations and so on. This leads to a better atmosphere, greater confidence, self-esteem and assertiveness in making contact with the school and communicating more independently, i.e., with less reliance on family and friends. The study shows that an embedded course and working with authentic material is also possible and has a positive impact for beginning language learners (level A1) and LESLLA-learners. PiiA succeeded in engaging all learners in dealing with daily oral and written communication, questions or talks, in ways that helped them acquire strategies and coping mechanisms, regardless of their literacy or language skills.

For the schools' part, specifically in relation to accessibility, PiiA also brought positive changes. One of its main aims is to help schools break down the barriers that prevent migrant parents from participating in their children's school. The interviews make clear that parents now experience a more positive and constructive attitude from the school staff towards them. School heads and class teachers appear to be making greater efforts to speak with the migrant parents, and particularly in Dutch, rather than in French or English or with the help of an interpreter. The parents also find it encouraging when school staff compliment them on their efforts to converse in Dutch. With respect to written

communication, the data do not indicate any clear changes. The PiiA parents seem to have a better understanding of their content, and are following these up to a greater degree. Whether, however, this is due to their greater awareness and language skills, or to less complex and more accessible texts from the school, is not altogether clear.

Finally, PiiA impacted on two other aspects. Firstly, its benefits were not limited to the school environment. Course members displayed positive changes in their wider daily lives. As with their dealings at their children's school, most of the parents can now communicate better and organise their lives more independently. Instead of falling back on relatives and friends, they arrange key aspects of daily life for themselves, for instance, at the doctor's, dealing with public officials, and so on. Secondly, PiiA is an important link in the learners' L2-trajectory. The course succeeded not only in encouraging migrants to take a DSL course for the first time, it also led participants to commit themselves to further Dutch lessons in the medium to long term as a way of increasing their language proficiency. For LESSLA learners in particular, the step to a regular DSL course is often too great because they have difficulties in finding out where courses are provided or how to access these centres. PiiA helped them learn about the wide range of DSL courses available, what is suitable for them and how they can access them. This, supported by further language learning, will hopefully afford migrant parents an even greater level of confidence and participation in society, with a positive impact on their children.

Notes

- 1 Flanders is the northern part of Belgium. The official language is Dutch.
- 2 In Flanders, migrants can follow a regular DSL course, either at a Centre for Basic Education (CBE) or in a Centre for Adult Education (CVO), depending on their literacy and the duration of their schooling. Non-literate learners and learners with less than ten years' schooling must attend a CBE. Learners with ten years' schooling or more attend a CVO.

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IDENTITY IMPOSITION IN EFL TEXTBOOKS FOR ADULT SECONDARY EDUCATION IN CHILE¹

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Abstract

In the midst of recent social movements claiming for free and qualitative education in Chile, this paper presents a study about adult secondary education, one of the sectors that has not benefitted much from the mild reforms generated by such movements. From a critical discourse analysis perspective and using an adapted model that combines textual criteria, pre, intra and posttextual inquiries and a lexico-grammar approach, we scrutinized the textbooks provided by the government to teach English as foreign language (TEFL) in adult secondary education. Considering textbooks as modeling technologies, we found that the portrayals of identity in the EFL textbooks analyzed are decontextualized, biased and irrelevant for the intended audience of adult, working class, dropout students that attend evening lessons in an effort to complete their secondary education. Moreover, in our interpretation, such depictions in these textbooks that are part of the national curriculum in adult education are constructed with an ideological discourse seemingly aimed at maintaining a capitalist status quo and imposing neoliberal identities on learners.

Keywords: ideologies in discourse, EFL textbooks, identity construction, adult secondary education

1. Introduction

The issue under analysis, the relevance of textbooks used to teach English to adults, is contextualized within the educational policies to teach adults, which are set by the Ministry of Education (MINEDUC) as the main responsible for pre-school, primary, and secondary schooling in Chile. The pre-primary level is two years of non-compulsory education for children four to five years of age. Primary and secondary education is compulsory. Primary education is from ages 6 to 13, and secondary education is from ages 14 to 17. In 2000, 99 percent of school-age children were studying at primary schools, and 90 at secondary schools. However, more than 5 million adults have not finished their

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compulsory studies, which are guaranteed by law, primary since 1920 and secondary since 2003.

The aim of the MINEDUC is to ensure an equitable, good quality educational system. To accomplish this, the Ministry re-launched in 2013 a program called Adult Flexible Education, designed for adults who have not started or finished primary or secondary education and do not have enough time to attend classes regularly. In the program web page (<http://www.epja.mineduc.cl/>), we can read that it consists of a free educational program, flexible (attendance is not compulsory) and classes meet for a shorter period of time than regular classes. These courses are offered by executing agencies (public or private) properly selected and authorized by the Ministry of Education, such as educational institutions, NGOs, foundations and corporations. These entities receive a monetary compensation for each test approved by the students. As in regular education, English as a foreign language is included in the plan of studies. To complete any segment of education, students must successfully pass a standardized national evaluation, in which participants have only three opportunities to pass each subject. It is important to highlight that all subjects must be passed, if they fail, the student has to take the same segment once again the year to come.

Even though this program is a step towards achieving quality education, it still needs to be evaluated in its purposes and results. Except for this program, adult students have apparently been ignored, not only by the Chilean government but also by the scholar community in general where EFL adult learners have not received the proper consideration. In this fashion, it is critical to draw the attention of the authorities and the discourse community of Applied Linguistics to this area, where adult learners are required to use MINEDUC unexamined textbooks.

Apart from the now classical reference to how culture is presented in EFL materials (Alptekin 1993), textbooks have been analyzed in Spain for their inclusion and treatment of intercultural and international issues (Mendez García, 2005); for their ideological and cultural implications for Chinese EFL learners (Shi, 2000); for their appropriateness for the Iranian EFL context (Roshan 2014). Roshan (2014) concludes that the two textbooks evaluated reflect cultural and ideological assumptions through their focus on the US and the UK where their local cities, life styles and subjects depict a biased way of life. In the area of EFL textbooks in Chile, Godoy (2014) shows the lack of authenticity of secondary EFL textbooks when contrasted with data from English language corpus analysis.

In this context, we report on a study that scrutinized the textbooks used for EFL adult learners from a critical discourse analysis perspective, using an

adapted model of textual analysis to explore their ideological implications and relevance. We include a review of the conceptual framework used, an illustration of the application of the adapted model and a summary of the conclusions from the analysis.

2. Theoretical framework

As the big umbrella approach covering and driving this investigation, Critical Discourse Analysis (CDA) can be defined as “an interdisciplinary approach to textual study that aims to explicate abuses of power promoted by those texts, by analyzing linguistic/semiotic details in light of the larger social and political contexts in which those texts circulate” (Huckin, Andrus & Clary-Lemons 2002: 107). Therefore, CDA offers the lens to thoroughly analyze and identify the ideological dimension and the particular type of individual intended to be educated by the flexible adult secondary education in the area of English as a second/foreign language. According to Fairclough and Wodak (2001), CDA recognizes discourse as social practice which contributes both to sustain and perpetuate the social status quo, but also helps to transform it.

In order to embrace CDA as an approach that provides demystifying and emancipating effects, we have created a multidisciplinary model, including theoretical background and scholars from numerous disciplines and epochs. This adapted Critical Reading of Texts model helped us to read off and analyze each reading passage in a systematic and organized manner. We can observe in Figure 1 the Critical Reading of Texts model in its graphic representation.

In the model we have followed Fairclough’s (1992) three levels view of language. Text is the initial stage for the understanding of any written message, where the inner and purely linguistic structure of the text is to be found; this is followed by Discourse, in general terms understood as language in use. Finally, we have Society, where language goes beyond discourse, working as the main tool in the construction of ideologies; this is done by “representing and constructing society which reproduce unequal relations of power, relations of domination and exploitation” (Beaugrande 2007: 28). These three levels worked interactively in the whole analysis as the constant and consistent umbrella model giving form to the investigation.

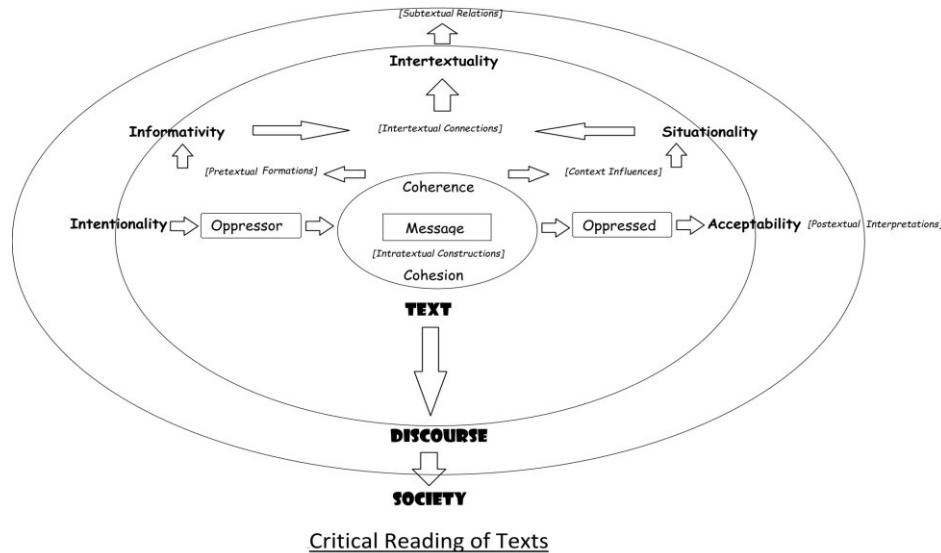


Figure 1: *Critical reading of texts model (based on Beaugrande and Dressler 1984; Fairclough 1992; Hegel 1999; Pennycook 2009)*

We have to understand that this model's interlocutors were firstly defined in the work of the Marxist social theorist Hegel (1999) and brought, developed and popularized in the field of education by the critical pedagogue Paulo Freire (1970), who described the agents involved in the social struggle, that is to say class struggle between the bourgeoisie and the proletariat, as oppressor and oppressed.

Subsequently, the initial theory proposed by Beaugrande and Dressler (1981) as "The Seven Standards of Textuality", which was afterwards restated and revisited by the same Beaugrande (2004; 2006), is the main model used to research into the text. These standards are cohesion, coherence, intentionality, acceptability, informativity, situationality and intertextuality. The first two, coherence and cohesion, are more closely related to the internal structure of the text, and the remaining five criteria are external to the text. Wodak (2008) noted that, on the one hand, purely linguistic research methods or closer to text linguistics regard as more relevant the first two criteria related to the inner construction of the text (text - grammar) and the other five external factors are seen as secondary. On the other hand, for most practitioners of Discourse Analysis, the external factors are the ones to be considered to play a fundamental role, and the inner standards are seen as a result of particular linguistic options.

To optimize the matching of the standards, we draw our attention to Pennycook's "Ways into Text" (2009) working model, which consists of a series of questions to frame an approach to critical text analysis. This method entails six main categories: 1) Pretextual Formations, 2) Contextual Influences, 3) Intratextual Constructions, 4) Intertextual Connections, 5) Subtextual Relations and 6) Posttextual Interpretations. Even if Pennycook never expected his model to resemble or to be used together with Beaugrande's standards, both aim, with different emphases at understanding what makes a text a text and, thus, complete our Critical Reading of Texts Model.

As a final point, we need to mention that this attempt to carefully systematize and consistently organize a Critical Reading of Texts model is an excursion into unveiling the ideologies in each reading passage and the materials as a whole unit. Notwithstanding, as several models have been engaged in dialog to generate one broader model, there are still several gaps that need to be overcome, as for example, the lack of a set of questions in Pennycook's model to address Intentionality and the absence of an eighth standard that directly matches the Subtextual relation. Therefore, this model is still work in progress that needs further refinements in future investigations.

3. Corpus

The corpus for the analysis consisted of the seven reading passages taken from the materials provided by the Chilean Ministry of Education for adult secondary education, specifically the materials for the first and second years of regular secondary education. These seven reading passages appear in the four coursebooks used in the teaching and learning of English as a foreign language that can be found in the appendix. The coursebooks are available in http://www.mineduc.cl/index2.php?id_portal=19&id_seccion=4618&id_contenido=2468.

MINEDUC provides a set of four books for the first module of the English language course. Each book represents a learning unit included in the national curriculum. Book one is called "El inglés en la vida diaria"; in which there is only one reading passage titled "A family in England" (Text 1). Book number two is "All about you", where there are three readings, one about family, with no title (Text 2), another one about physical descriptions with "Listening" as title (Text 3), and the third one is a reading passage called "Cultural page" (Text 4), about the frequency of some proper names. Book three, "City and work", contains one text called "reading", dealing with city life and family (Text 5). The last textbook includes unit number four "Lunch time", with two reading

passages, the first with no name about personal routines (Text 6) and the second one called “Cultural page”, including eating habits (Text 7).

For the purposes of this paper we have summarized the results from the application of the model in two charts, in Figures 2 and 3.

4. Overall analysis

The first and foremost demand made upon methodology is to systematize and organize schemes for specific modes of discursive work; in this specific analysis, a set of written texts. In order to work in this direction, it is necessary to demarcate boundaries for the results of the analysis, descriptions, and interpretations for each text enquired (Texts 1 to 7). We can remotely visualize how any methodical analysis could ever be based on analyzing or theorizing without taking a look at the bigger picture. Therefore, the approach constructed by the Critical Reading of Texts model needs to focus on an attentive and active study of authentic discourse as a whole to uncover the habitual sense-making procedures intended by the original producers of discourse, creating a more critical understanding of the hidden voices within the text.

The model is applied by interrogating the texts using simultaneously the seven standards of textuality, from the text-based ones (cohesion and coherence) to the discourse-related ones (intentionality, acceptability, informativity, situationality and intertextuality) and the questions in the Ways Into Texts model. As a last step, the text is inquired using the questions for Subtextual relations that would lead to the social context in which the textbooks are constructed and received.

4.1. Results

To show the results, we take a step back to appreciate the seven texts interacting as one; in this way, we can see them as a complete unit working as one larger discourse. The first chart in Figures 2a and 2b includes the three linguistic dimensions behind the textual architecture of the texts, which comprise Lexical Option, Grammatical Arrangement and Lexical Repetition. The detailed analysis in these three dimensions led to the grouping of the findings into the four categories illustrated in Figures 3a and 3b. For example, in terms of lexical option we found a recurrence of adjectives and nouns referring to male subjects with only positive attributions; as for grammatical arrangements, any time female and male constituents were together, the male one was in first and subject position whereas the female was secondary and in object position.

Associated to these two dimensions, lexical repetition of male references was always the case, except in Text 6.

Next, we may witness the ideological traces found in each text as part of a larger textual organization. We have put together a detailed chart showing the evidence manifested in the texts (Fig. 3), which is broken down into two sets of descriptors: in the vertical axis the texts analyzed, from 1 to 7, and in the horizontal one we catalog the ideological load into four columns: *Sexism*, *Capitalism*, *Conservatism* and *Cultural asymmetry*. These four main categories represent the recurring issues that emerged from the analysis.

4.2. Interpretation

Now that we have seen some of the results from the application of the Critical Reading of Texts model, we interpret the results shown in Figures 2 and 3 and add further examples to illustrate these interpretations. At the outset, we can mention that one of the consistent elements encountered in the majority of the texts analyzed is the sexist positioning. In five of the reading passages, namely from 1 to 5, men seem to be lionized and women diminished. This possible idealization of men is primarily carried out through particular lexical options. Among other constituents, the occupation assigned to male individuals is superior in prestige and power relations to that of women, such as in Text 1 where the woman is said to be a secretary, a submissive job, and the man a teacher, which is a power position endowed with authority. What is more, this may be reaffirmed by the incorporation of men as the first and prime subject in sentences where males and females are located together. In this same path, in Text 2, the same features are repeated, where female's position appears to be diminished, together with the contraction of the verb -to be- when talking about women and fully expressed when mentioning male features. In Text 3, we can see that males are described with positive adjectives and females with a mixture of positive and negative ones. Moreover, these interesting lexical options are not presented alone, but close to an intriguing grammatical structuring, this is -*be + always + ing-*; a negatively loaded grammatical construction set to describe and thus stereotype only the women's behavior and not the men's; this grammar construction is frequently used to describe annoying behavior.

Chart 1	Lexical option
Sexism	- Power related occupations are assigned to men and submissive ones to women. - There are more men than women mentioned. - Male last names are the only ones presented and these same are assigned to women. - Sexist concepts are chosen over the neutral terms at hand. - Positive words are used to describe men and a mixture of positive and negative to qualify women. - There are more words representing males than females. - Names of men have more characters (letters) than women's. - Extremely positive words are used to describe men's jobs and none to qualify women's. - Physical personal care words are only related to women, thus enhancing stereotypes. - Only material words are used to describe females' routines.
Capitalism	- Material load words are chosen instead of affective load ones. - Economic related concepts are linked with family relations. - Capitalistic and material words are chosen when there is the option to include affective loaded terms. - The capital city is the only one mentioned. When another city is mentioned is to assert that someone moved to the capital. - Show business industry words are selected as predominant and more important.
Conservatism	- A couple is only man and woman. - Married couples predominate. - Family is always related to children
Cultural asymmetry	- Among all the English language speaking countries only England is presented. - Anglo-Saxon concepts describing physical appearance are included. - British and American names are enhanced by including enormous numbers to describe them whereas Chilean names are succinctly described.

Figure 2a: *Summary of linguistic justification for four descriptors in the seven texts analyzed*

Grammatical arrangement	Repetition
- Men are located first position and before women. - Men are put in the front or near front of most of the sentences. - When the verb "to be" is used, this verb is contracted next to a female and fully expressed next to a male. - be + always + ing- is set to describe a woman's behavior. - Pictures are arranged to favor males.	- Men are repeated constantly as the main characters in five of the seven texts and women are put in this role only once. - Male names are repeated in several languages as common, no female name is mentioned as common.
- Material words are located before affective ones. - Work related elements are enhanced above family relations.	- Material and economic loaded words are constantly repeated. - Show business industry words are repeated. - Work is repeated constantly and used in its different grammatical categories (noun and verb)
	- One conception of family is found and repeated
- U.S people are shown in first position, before the Latin American ones.	- The content words British, England and American are consistently repeated through some of the texts.

Figure 2b: *Summary of linguistic justification for four descriptors in the seven texts analyzed.*

Chart 2	Sexism	Capitalism
Text 1	- Males are located in a higher position above females.	- The material world is placed over the emotional one. - Family is linked with economic elements and not with affection.
Text 2	- Male individuals are placed as more important than female. - Sexist stereotypes are included.	- Characters work in subservient service occupations, reticulating money but not generating concrete material value. - Unemployment of a fully functional individual is presented. - Capitalistic places are the prime element. - Only the capital city is mentioned
Text 3	- Specific standards of beauty are set. - The lionization of men is one of the main elements.	- Show business individuals are lionized.
Text 4	Males are put in a higher level in comparison with females.	
Text 5	- Men are located in a higher level compared to women.	- Work is located as more important than family life. - Material occupation is positioned over one that generates intangible knowledge.
Text 6	- A woman is the main character. - Physical stereotypes are assigned to women.	- Migrant movement to the central economic area is presented. - Work is the most important concept and the text goes around it. - Only material words are included in detriment of affective ones.
Text 7		- Capitalistic rituals are presented and enhanced. - Individual behaviors are put beneath family ones. - Home activities are disregarded in detriment of monetary transactions.

Figure 3a: *Summary of four descriptors in the seven texts analyzed*

	Conservatism	Cultural asymmetry
Text 1	- A married couple is the primal subject, including girls and boy as part of the family.	- English culture is positioned as the most relevant.
Text 2	- A married couple with children is presented, including girls and boys. - The father as the only economic support of the family.	
Text 3		- U.S. physical stereotypes are embedded. - Not U.S. origin individual has changed her appearance to match the northern stereotype. - U.S. individuals are located in a higher position over one of Latin origin.
Text 4		- European cultures, principally the British one, are set as more relevant. - Chilean cultural elements are put beneath outer ones which states that these are a copy of outside cultures.
Text 5	- A family is formed of a couple, a man and a woman, with three children, two boys and one girl. - Religious words are included in unnecessary contexts.	
Text 6		
Text 7		- The U.S. and the U.K. are considered as the world. - American and British cultures are put as more important.

Figure 3b: Summary of four descriptors in the seven texts analyzed

Another relevant element found in Texts 4 and 5 is the use of more male individuals as examples and as main characters or participants in the passages; some of their names even have more characters than women's, creating what might come out to be a physical supremacy when reading the passages. Even if this last element strikes as too farfetched at first, it is still another interesting ingredient to the mix; by itself it may not mean anything, but it is part of what seems to be consistent positioning of men as superior. In Text 6, the only text with a female individual as the main character, she is apparently used to reinforce what looks as the stereotype of women, spending most of their time taking care of their personal appearance. Finally, in Text 7 there is no discernible element pointing to the superiority of men found in the six previous ones. As it is possible to perceive in Figure 2 the sexist load in the text seems to be mainly reinforced by some specific lexical options, together with, but in a minor quantity, the inclusion of a few grammatical arrangements, and words and structures repetition. In conclusion, we can assert that this series of texts appears to convey male chauvinist and sexist elements that lionize men, positioning them in a superior place and females as a minor complement.

Another significant distinguishable trait of the corpus examined is the constant and regular inclusion of what looks like capitalistic loaded elements. Among other matters, this is distinguished in six of the seven reading passages, which is quite interesting, as this is not a content explicitly proposed by the Chilean Ministry of Education. This category is a bit blurrier and more difficult to point out due to the complex organization of the capitalistic ideology; in this fashion, we encounter issues such as the idealization of materiality over emotions, service occupations, unemployment, centralization of resources, monetary relations and work as the activator of social relations. Initially, in Text 1, there exists a link between what Marx (1993) considers as an extremely capitalistic word, *-rent-* and the concept of *-family-*, and the positioning of the material world above the affective one; this is mainly carried out through particular lexical selections. Text 2 stands out by, first, conveying the idea that unemployment of a fully functional human being is natural and, secondly, by glorifying the center of monetary transactions *-shopping center-* and including the capital city *-Santiago-* as the only relevant Chilean locality mentioned, thus expressing a centralized generation of monetary profits. All of this is achieved by choosing specific words related to the capitalistic conceptions, disregarding communitarian and emotional concepts. In this same line of analysis, we observe two things in Text 5: that work seems to be considered as more important than family and that the creation of material value is more important than the generation of knowledge. The former is accomplished by grammatically positioning the work related elements before family affective

relations and by repeating work related concepts, and the latter is crystallized through particular lexical choices, such as the inclusion of *-proud-* to praise the material work and none to describe the intellectual one. In Text 6, it is possible to see the inclusion of *-work-* as the prime constituent and a migrant movement from outer regions to the capital city *-Santiago-*; in addition, there are only material elements in a person's routine in detriment of emotional or affective relations. Furthermore, in Text 7 we come across with what might be the highlighting of monetary exchanges over family rituals, together with the positioning of individual activities above collective actions and the idealization of work as the prime activity in a person's life. Even if the capitalistic ideological load is included through several lexical elements, this is also reinforced by arranging the grammatical structure to draw the attention of the reader to apparently capitalistic elements.

Following with the account of the two diagrams presented in figures 2 and 3, we can mention another descriptor: Conservatism. This characteristic did not emerge as consistently as the previous ones, but is as relevant. One of the main elements showing conservatism in the texts is the presence of only one conception of family in Texts 1, 2 and 5, where solely men and women couples are illustrated, each of them with children, including boys and girls; the rest of the possible types of families seem to be disregarded, such as single parents, gay couples or any other type of family. This is textually accomplished by choosing the lexical items that only allow this construction. Other significant conservative features are the inclusion of a man as the prime source of monetary income for the family in Text 2, which is also a sexist element, and the addition of *-church-* as one of the places in Text 5. These two last elements might not be included throughout the texts, but they become relevant when accompanied by the conservative building of *-family-* enhancing its traits. As a result, we can affirm that the conservative characteristics may be mainly introduced through lexical items and repetition, and not through grammatical arrangements.

Cultural asymmetry is another relevant category. What stands out from the analysis is the consistent inclusion of the U.S. and British cultures as positive and ideal. This issue might have to do with the fact that these texts are teaching the language primarily spoken in these communities which Kachru (1997) calls the Inner Circle; however, if we take English as an international language of communications there are plenty of other communities and cultures that are relevant and closer to Chilean learners of English, as also acknowledged by MacKay (2003). The cultural element can be read off from Texts 1, 3, 4 and 7, not only by the selection of particular lexical items, but also through repetition and grammatical structuring to a lesser extent. In Text 1, it is possible to see *-England-* as the outer context of the text that naturalizes the addition of this

European community as a target culture to be acquired. In the same way, in Text 3 we encounter the setting of Anglo-Saxon physical stereotypes enforced over the reader as what seems to be an ideal appearance that even a “famous” Latin American individual wants to achieve, locating U.S. citizens above the only Latino individual. This is accomplished basically through particular lexical items which personify the Anglo-Saxon physical characteristics. Additionally, in Text 4, we distinguish how the creator of the text positions British and other European cultures above the Chilean one, conveying the idea that the latter is not more than a resemblance of foreign cultures. Finally, in Text 7 we notice that British and American cultures are seen as the only relevant ones in the entire planet, when they are linked directly with the word *-world-*; in this same way they are positioned as the model for the Chilean culture. Thus, this element is portrayed mainly through vocabulary and the prime cultures included, the ones from the countries part of the Inner Circle of English speaking countries.

Finally, we can observe that this series of texts is loaded with ideological elements. We encountered specific vocabulary, grammatical structuring and lexical repetition, among other particular mechanisms, all apparently pointing to the inclusion and possible imposition of sexist, capitalistic, conservative and cultural ideological ideals. In this sense, it is important to highlight that the most pervasive and persistent characteristic is sexism, roaming throughout most of the texts analyzed, which helps construct a political discourse that may naturalize the values and beliefs of the textbook producers. It is because of this that we suggest not to blindly accept and unquestionably use these reading passages as an educational tool in English language teaching, following a critical stance introduced by Phipps and Guilherme (2004) in the field of language teaching and political struggle that

“refuses to place faith in the status quo of relations forged only in the dominant interests of global capitalism, of white hegemonic power, of world English as a supreme or first language, of a so-called ‘first world’, of patriarchal power and of heterosexuality” (p.2).

5. Conclusions

The analysis using the Critical Reading of Texts model corroborates that the texts scrutinized contain linguistic ideological traces, constituting which might be political discourse aimed at imposing identity and maintaining the current social order. The Chilean Ministry of Education represents and acts as a privileged group, apparently imposing one extremely particular view of the

world by means of specific discursive practices, not explicitly recognized and hidden within the discourse delivered in this series of textbooks for adult education. Therefore, this apparent harmless attempt to educate Chileans (and those seeking to become Chilean) into EFL embodies what seems to be a concealed desire to perpetuate an invariable view of society.

The reading passages deconstructed and categorized in this study proved that they cannot, and are certainly not, be analyzed or acknowledged as mere texts; they are complete discursive entities, worth considering not only from their linguistic dimension, but also from the social context surrounding their textual architecture and their multimodal nature (Fariás et al 2011). Considering solely the internal textual constituencies would create a partial and insufficient analysis disregarding the real power and meaning embedded in the discourse and social dimensions of these reading passages. In this respect, the discursive construction of society, together with the distribution of power, make the social element of mammoth importance in the field of discourse analysis. As Paulo Freire asserts "Reading the world precedes reading the word and reading the word implies the continuity of reading the world" (1985, p. 11). Reading off these texts and examining them as discourse is, first and foremost, an act of recovering the knowledge of the world because for a total conscious understanding of a text we need to be aware of its social context; which, in this case, includes the injustices and inequalities of the social context in adult secondary education. As a result, the empowering of the common untrained reader in order to read critically these texts constitutes a weapon against domination and ideological imposition; thus, we are working towards incorporating some of these critically deconstructing procedures into the classroom.

Note

- 1 Some sections in this paper come from work in project DICYT 031351FF, Universidad de Santiago de Chile.

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Appendix

Reading passage 1

[0] A family in England

[1] Alex and Salle Brown live in Manchester, in the north of England, since 1999.

[2] Alex is a teacher and Sally works as a secretary. [3] They have two children, Peter and Helen. [4] Peter is twelve and Helen is ten. [5] They live in a modern house. [6] Downstairs, they have a kitchen and a living/dinningroom. [7] Upstairs, they have three bedrooms and one bathroom. [8] They rent the house. [9] They pay about three hundred and sixty pounds for it.

[10] They usually get up at six o'clock in the morning. [11] After having breakfast at eight they leave the house.

Reading passage 2

[0] Hello! [1] I'm Rodrigo Ortega. [2] I'm from Mendoza, Argentina, but my parents are from Santiago. [3] They are Chilean. [4] I'm twenty three years old and I'm a salesman in a shoe-shop in a shopping centre.

[5] My father is a mechanic, but he is not working now. [6] His name is Pedro.

[7] My mother is a housewife. [8] Her name's Rosa.

[9] My sister is seven and my brother is fifteen. [10] Their names are Antonella and Piero. [11] They are students.

[12] I also live with my uncle, Juan. [13] He is my mother's brother. [14] He is divorced and he lives with my cousins Camilo and Jimena. [15] My grandfather, who also lived with us, died last month.

Reading passage 3

[1] He is from U.S.A. [2] He's a famous and very good-looking actor. [3] He has got blond hair, blue eyes, little nose, and a beautiful mouth and smile.

[4] She's a very good singer. [5] She's quite irreverent. [6] She's always doing something extravagant. [7] She has got blond hair, green eyes, little nose and a sensual mouth.

[8] She's a singer too. [9] She is from Colombia. [10] She sings and dances very well. [11] She has got long, black hair, but now she has blond and curly hair. [12] She has got a big nose and mouth.

Reading passage 4

[0] Names

[1] There are thousands of different names in Chile. [2] Some are from Spain, others are taken from other cultures. [3] Just a few are really from Chile. [4]

There are always some fashionable names. [5] Nowadays there are a lot of boys and girls named Nicolás, Sebastián, Ignacio, Matías, Catalina, Javiera, etc. [6] Some common names are very similar in different languages. [7] For example Juan in Spanish is John in English, Giovanni in Italian and Jean in French. [8] In Britain, the most common surname is Smith (over 7.000.000 in Britain and 18.000.000 in America). [9] In fact, there are nearly 30.000 people in Britain called John Smith.

Reading passage 5

[1] Mauricio and Anna are living in a house in the suburbs in Santiago. [2] There are five people in the family; the couple and three children. [3] Anna is a primary school teacher. [4] Her work is within twenty minutes from the house. [5] On the way to school there is a church, a newstand, houses and a park. [6] At the end of the park crossing the street you can see the school. [7] Now, Mauricio is working at home. [8] He is making a handmade piece of furniture. [9] He is a craftsman. [10] The show room and the joiner's workshop are in the backyard. [11] In Mauricio and Anna's home there is a lot of furniture made by Mauricio's hands. [12] In the living room there is a table and two armchairs. [13] In the kitchen there are two cupboards. [14] In the bedroom there is a beautiful carved bed. [15] Ana is very proud of Mauricio's work. [16] When Anna arrives home everybody in the family is doing something. [17] Sebastian, the youngest son, is cleaning his room. [18] Maria, their daughter, is doing the shopping at the supermarket. [19] And Mauricio junior, the eldest son, is doing the dishes in the kitchen.

Reading passage 6

[1] Hello. [2] My name is Vicky. [3] I'm from Valdivia, but I live in Santiago. [4] I work from Monday to Friday in a factory. [5] I get up at six every morning. [6] I take a shower. [7] I get dressed. [8] I put make up. [9] I comb and dry my hair. [10] Then I have breakfast. [11] That is the best time in the morning. [12] I drink a cup of coffee to wake up and a glass of juice. [13] I eat some fruit, a slice of bread and butter or jam. [14] Then I'm ready to start the day. [15] I leave home at seven o'clock. [16] I go to work by bus. [17] I arrive at work at five to eight.

Reading passage 7

[0] Cultural page

[1] People eat different kind of food around the world. [2] What do you usually eat as your first meal? [3] Probably your answer is a cup of tea or coffee and milk, bread and butter.

[4] Chilean breakfast is quite different from American or British breakfast.

[5] American people have fruit juice, coffee, toasts, cereals, muffins, eggs and bacon. [6] British people have beans and tomatoes on toasts. [7] For them this is the main meal.

[8] Chilean lunch is usually at two in the afternoon. [9] It is the most important meal. [10] They eat one or two dishes and dessert. [11] Well, they used to. [12] For the last years, people usually don't have time to eat lunch, so they eat fast food: a sandwich, a hot dog, chicken wings, chicken and chips in a fast food restaurant.

ENCOURAGING LEARNER AUTONOMY: WORKING WITH PORTFOLIOS, LEARNING AGREEMENTS AND INDIVIDUALIZED MATERIALS

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Abstract

A teaching approach to developing learner autonomy in literacy classes is described. A focus on German as second language with a workplace-orientation is set. This approach is built on the use of a portfolio, the learner-directed definition of Learning Agreements and working with Learning Stations. The interrelated use of these instruments is described. Basic concepts that are fundamental to the approach are explained: heterogeneity, homogeneity, differentiation, individualized teaching, learner autonomy and teacher autonomy.

Keywords: portfolio, learner autonomy, teacher autonomy

1. Some facts about illiteracy in Germany

In 2011, for the first time, reliable data on illiteracy in Germany were provided by the leo-Level-One Study (Grotlüschen & Riekmann 2011). The data show that the proportion of illiterates (functionally illiterate as defined in the level descriptions $\alpha 1$ - $\alpha 3$) is 14.5%, which correspond to an estimated 7.5 million of the total population aged 18-65 (ibid.: 4). Of these 7.5 million illiterates, 41.8% have a first language other than German (=3.1 million illiterates) (ibid.: 8; for limitations in the sample, see Buddeberg & Riekmann 2012: 213-214). Very interesting is the fact that 56.9% of these 7.5 million illiterates are employed (Grotlüschen & Riekmann 2011: 9) and that illiteracy among second language learners shows approximately "[...] the same extent as for people with German as their first language" (Buddeberg & Riekmann 2011: 216; see also Rammstedt 2013: 15-16).

Literacy among the immigrant population in combination with workplace orientation is therefore an important social issue that stands in the focus of the research program "Workplace-Oriented Research and Development in the Area of Literacy and Basic Education" with a funding of about 20 million euros for the period 2012 - 2015. The program is financed by the Federal Ministry of Education and Research (BMBF).

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Adult literacy, second language and cognition
Nijmegen: CLS, 2015, pp. 89-114

Particularly demanding in teaching is the combination between oral and written language goals (see BAMF 2009) on one hand and workplace oriented goals on the other hand. This combination increases the usual heterogeneity in literacy classes for immigrants, as workplace experiences, skills and interests are different for every individual. Self-direction and self-evaluation of the learner's own learning process are therefore essential.

The project "Alphaportfolio" targets literacy teaching in German as a second language, and at the same time puts a focus on workplace oriented experience, competencies and interests of the learners (see "Alphaportfolio" in the bibliography for more information). It was launched in October 2012 in cooperation with the school for adult education "Internationaler Bund Bielefeld" and aims at the development and implementation of individualized materials. Working together with expert practitioners in literacy teaching, the materials were tested in six courses: two A1-courses, two A2-courses and two A2/B1-courses (for the description of the levels A1-B1, see Council of Europe 2001). The materials consist of a portfolio, learning agreements and individualized materials (for individualized teaching methods see Winter 2012; Hegele 2006; Vaupel 2006). One target group of the project is thus illiterate adults who are learning German as a second language and learning to read and write with a workplace orientation. The main objective of the project, however, is the formulation of hypotheses on how to use a portfolio and individualized materials in literacy classes (see Dammers et al. 2013; Feldmeier et al. in press; 2015; Kuhn et al. 2014). Therefore, in addition to the learners in literacy courses, the teachers are a second target group of the project (see for first results Dammers in press).

An underlying starting point of the project is a concept of autonomy, in which both learners (for the concept of learner autonomy, see Sánchez González & Koch 2004; for a critical examination of the concept of learner autonomy, see Schmenk 2014) and teachers (see the concept of teacher autonomy; La Ganza 2008; Little 1995) must grow into the setting, realizing an evaluation of individual learning goals. Learner autonomy and teacher autonomy are consequently interdependent and can be understood as a learning goal for students and as a professional goal for teachers: individualized materials offer an opportunity to realize these goals.

2. Dealing with heterogeneity in class

Learning groups are always heterogeneous. Every attempt of homogenizing (for example by external differentiation within a course system or internal

differentiation within a single course) is illusive, since defining groups by a concrete factor (e.g. oral competence in German as a second language) will always neglect other important factors (Schilmöller 2011). For literacy classes with immigrants, the concept of the Federal Office for Migration and Refugees defines three major teaching goals: oral competences, written competences and learner autonomy (BAMF 2009).

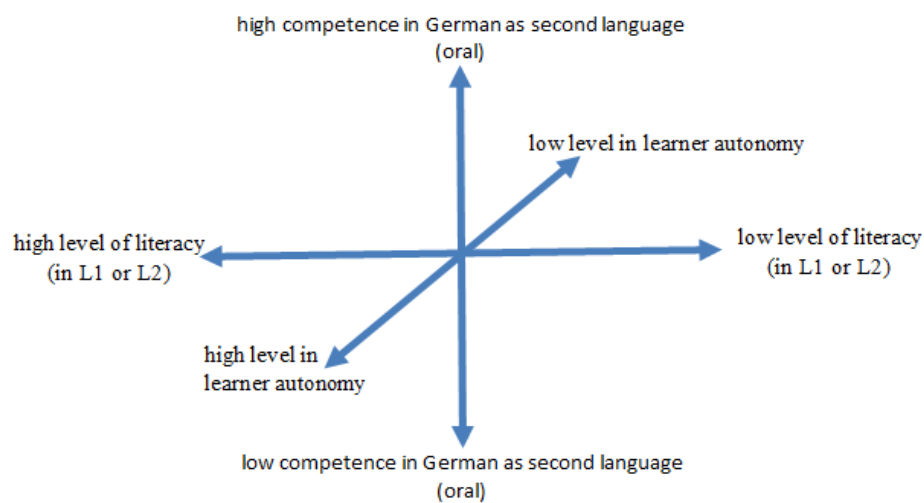


Figure 1: *Heterogeneity based on oral competences, writing competences and learner autonomy*

Figure 1 shows a three-dimensional representation of heterogeneity based on the factors oral competences, writing competences and learner autonomy. Adding a fourth dimension, for instance, workplace oriented language competences, would give an idea of the complexity needed in materials for individualized teaching. Working with heterogeneous groups normally forces teachers to make abstracting assumptions about the group, in order to adjust their teaching concept towards an idealized learner that somehow combines average features. At first glance, this seems to be the best way to go. Deciding, for example, which topics, grammar or orthographic aspects should be taught would normally be based on the middle section of a normal curve of distribution: an idealized average learner becomes the guideline for pedagogical decisions. Those learners who are too slow or know too little (or are too fast or know too much) would be addressed by the teacher through internal differentiation. At the same time, testing learners within such a setting means comparing single learners to other learners in the group (or to a baseline

in similar groups). A basic idea in this kind of building learning groups is that within a class, as time goes by, it will be possible to balance the differences between learners; however, this is only possible in reference to a specific feature, while simultaneously neglecting others. As mentioned before, for literacy classes in Germany three major goals are defined. Thus, the attempt to equalize differences might seem to be possible if we concentrate on, for example, written competences, but this poses questions about the oral competences and competences belonging to learner autonomy. Do those learners who may have been brought to a similar level in written competences also have similar oral competences in the end? Are they in the same way autonomous? Common sense should have us doubt that. In fact, for many learners the differences might even increase over time. Especially those learners with no schooling have to learn many things that are not measurable in a linguistic sense: how to hold a pencil, how to use it without cramping, writing along a line, orienting yourself within a textbook, learning in groups, finding a new social role in the learning process, learning new communicative patterns, and so on. Thus, many learners with little or no schooling use part of the time to learn widthwise. In the perception of the teacher they hence seem to be slow learners, but they are not. Another important point is worth mentioning: some learners have their own curriculum, which is not only different from the external curriculum (for example a textbook) in the sense that it has different topics, but also in the importance the learner ascribes to these topics. An example of my own teaching experience exemplifies this:

Back in the nineties I taught in literacy classes for women. They all were non-literates with no formal schooling. One typical observation in these kinds of groups is that some learners do write without space characters. Every word is joined to each other, producing a block of words that is sometimes hard to decipher. I decided to help a woman by putting my pinky finger on her copybook to make sure that she realizes the space character. While doing that, I would tell her every time about the importance of leaving an empty space between words. As she finished writing a word I would replace my pinky finger to force her to leave an empty space between words again. Very patient, I did that for more than two months, emphasizing every time the importance of the space character. But, in spite of every attempt she kept writing in a block as soon as I moved on to other learners. So, I finally gave up, since it was hopeless. After three months she gave me a sheet with a text on it. I had to look twice to notice the difference. "You got all space characters in there! How is that possible?" I asked her. Her answer was astonishing and embarrassing at the same moment: "Well, I wanted to do it for a long time."

This example shows that some learners are quite aware of what they have to learn but have a different road map and different time table for it. Therefore, a Procrustean bed seems to be a questionable way to deal with individual differences.

Comparing learners with other learners thus is based on many idealized assumptions that can be problematic. An alternative way to that traditional concept of teaching is given when the teaching is supported, for example, by a portfolio. The portfolio makes possible to compare learners with themselves. Deciding what to teach to a learner will then always mean estimating the present competences of this learner and adapting every future step to it (see for example, the concept of the zone of next development Vygotsky 1964). Working with a portfolio offers an alternative way of teaching and evaluating and can complement traditional ways of teaching and testing (see for an adaptive test in literacy Bulut et al. 2010a; 2010b). It is not meant to replace traditional curricular thinking or traditional testing, but to establish a parallel counterbalancing system.

3. Learner autonomy

Like other instruments (e.g. counselling; see for that Markov et al. 2015), a portfolio works only if it is based on a certain degree of learner autonomy. At the same time it promotes learner autonomy. Hence, by introducing a portfolio, a teacher adopts a strategy similar to a “zipper”. He or she encourages the learners to develop learner autonomy, while he/she uses the learner autonomy at the same time in class. As Little defines:

The basis of learner autonomy is that the learner accepts responsibility for his or her learning. This acceptance of responsibility has both socio-affective and cognitive implications: it entails at once a positive attitude to learning and the development of a capacity to reflect on the content and process of learning with a view to bringing them as far as possible under conscious control.

(Little 1995: 175)

Being able to take responsibility for one’s own learning process is not a competence given at birth. It has to be learned and is therefore not only an instrument in the hand of a teacher but a pedagogical goal that can be described with a progression line. And, as is the case with many other didactic goals, it can easily become challenging or unchallenging for learners if introduced improperly.

4. Teacher autonomy: dealing with conflicting concepts of teaching and learning

Addressing learner autonomy can pose a challenge to many teachers. Not only one's own teaching and learning concepts, but many other different concepts have to be re-evaluated and harmonized. Figure 2 shows some of the concepts that need to be considered (see Feldmeier 2010; La Ganza 2008; Little 1995). These are the teaching and learning concepts in:

- the official curriculum (e.g. of the government)
- the „philosophy“ of your school (e.g. own school curriculum)
- the teaching materials (i.e. of the developer of a textbook)
- the tests (e.g. a standardized B1-test)
- the head of a teacher
- the head of a learner.

Therefore, a teacher has to overview all concepts that somehow affect his teaching and bear in mind that some of these concepts do usually conflict with each other. Take, for example, the Common European Framework of Reference of Languages (CEFR) (Council of Europe 2001). One very important pillar of this framework is the concept of mediation that suggests connecting any competences in different languages in a systematic way. After its publication in 2001, many editorials published new teaching materials based on the CEFR, but omitted mediation as a major goal. This is an example of differing concepts: the CEFR, an official curriculum based on it and the concept of the teaching materials conflict with each other. Such divergences are quite usual and are a source of problems in class. One might think that the most important concept is the one inside the head of the teacher, since he is the one who will decide what happens in the classroom. But, if we think about the reactions of learners, who could lose interest and eventually drop out of class, we see that the concept inside the learner's head is also very important. While working with a textbook in the classroom, a teacher might decide to skip some pages or units because these pages conflict with his or her own concepts of teaching and learning. He then imposes his own concepts over the concepts of the textbook. Inexperienced teachers might, on the other hand, rely too much on the concept of a textbook, forgetting about the goals described in an official curriculum. Another example is the conflict that may exist between the concepts of tests and a curriculum, leading to wash back effects (Aldersen & Wall 1993; Shawcross undated).

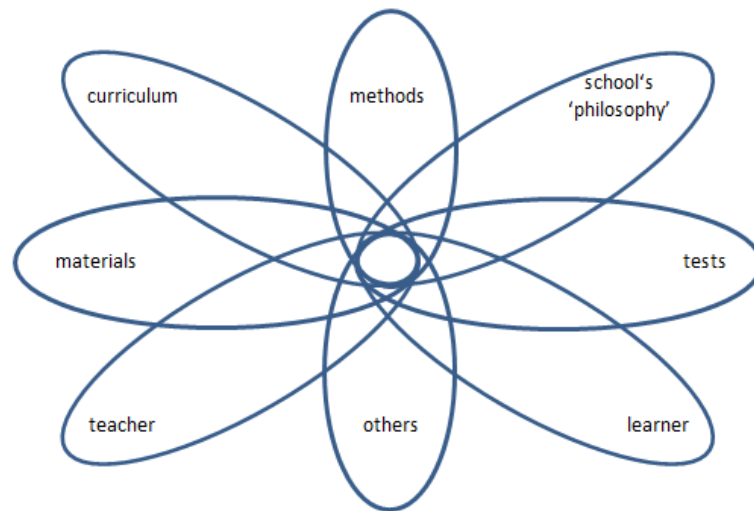


Figure 2: *Different types of concepts that affect teaching*

Figure 2 shows a classroom situation pictured by the inner circle. Professional teaching is expected to enable to balance and counterbalance these concepts in a way that it leads to an optimized teaching and learning in classroom. Such a reflecting teacher reminds of the concept of teacher autonomy as described by Little 1995:

Genuinely successful teachers have always been autonomous in the sense of having a strong sense of personal responsibility for their teaching, exercising via continuous reflection and analysis the highest possible degree of affective and cognitive control of the teaching process, and exploiting the freedom that this confers.
(Little 1995: 179)

In the same vein, dealing with the different concepts in classroom depicted in Figure 2 also applies for learners. Developing or promoting learner autonomy thus depends on teacher autonomy as Little points out: “[...] if [...] learner autonomy and teacher autonomy are interdependent then the promotion of learner autonomy depends on the promotion of teacher autonomy.” (Little 1995: 179; see also La Ganza 2008). With respect to the use of a portfolio, this means that learner and teacher autonomy are necessary. Using a portfolio in a systematic way will lead to a change of many concepts, predominantly the teacher’s and the learner’s concepts of learning and teaching, and is thus a challenge for both. Therefore, it is better to ease into using a portfolio than to introduce it in the classroom.

5. Individualized learning with a portfolio

One of the most important steps in dealing with heterogeneity is – as noted above – the necessity of individualized learning. Heterogeneity hence has to be understood as a resource and not as a problem. The point is therefore not to rely solely on the comparison between learners, but to accept learners in their diversity and to work with this diversity from the beginning. This also means that the effectiveness of learning must also be defined by the learners' own personal development: the success of learning should logically be done by a comparison with oneself. Especially when learners differ in a strong way from a group this way of teaching is needed (e.g. teaching „students with limited or interrupted formal education“ (SLIFE) in a mainstream classroom; see DeCapua & Marschal 2011; De Capua, Smathers & Tang 2009; Freeman & Freeman 2002).

Those learners who start with a very low level of competences compared to the rest of the group run the risk of being demotivated. Whatever their development might be, it would hardly match with the level reached by the rest. Thus, compared to the group, the development of these learners would seem to be very small. Making all learning processes visible during literacy classes, even those not related to linguistic goals, is the potential that the use of a portfolio bears. It is one possible way to be fair to learners, recognize and value their accomplishments in class.

When implementing a portfolio in class, it is important to work with it at the beginning of class consistently and regularly. Learners need to be eased into this didactic instrument in a very slow way (for problems in the use of portfolios in the German Integration Course system see Ballweg 2009; Benndorf-Helbig 2005; for similar observations about the counselling program, see Berndt 2011). It is noteworthy that some practitioners will prefer to work with a portfolio at a higher level of oral and writing competence, as a portfolio could otherwise be too challenging. This way of thinking, though, shows a shift in priorities concerning teaching goals, leaving the development of learner autonomy behind other goals: normally, the development of writing and oral competences.

6. What is a portfolio?

Since the publication of the European Language Portfolio (ELP; see Schneider et. al 2001) this didactic instrument has been discussed widely among scholars and practitioners. The portfolio is also important in the nationwide curriculum for literacy classes in Germany (BAMF 2015: 139-140), which emphasizes working with it as a way of individualizing teaching and fair testing (in the Netherlands

a portfolio was also used in the final tests; see the Red Book, Nuwenhoud this volume). There is a wealth of portfolios, so that at this point some descriptions and a classification are necessary. A proposal for a systematic description of portfolios is delivered in Winter (2012: 56). Winter considers two parameters to be relevant: the degree of standardization and the narrowness / width based on the subjects for which a portfolio is applicable. Figure 3 shows these parameters as a vertical and a horizontal dimension. The vertical axis describes the width or narrowness of a portfolio and refers to the variety of areas (including, for example, school subjects or topics) that are to be focused on with it. For example, a portfolio can be used in schools in a single subject (e.g. in biology classes) to address and document the learning progress during a two-week project (e.g. an experiment). In this case, it is limited to the theme of this temporary project. On the other hand, it also could be used to address and document the learning progress of different, related school subjects during the whole year (e.g. math, biology, physics and chemistry). The horizontal dimension describes the degree of standardization. There are portfolios that are designed without any standardization and thus will have a different structure and a different content for each individual learner (for a good example of this, see Nuwenhoud, this volume). In contrast, strongly standardized portfolios are characterized by predefined structures and contents (a good example is the ELP).

As Figure 3 shows, there are different kinds of portfolios currently being used in Germany:

1. *Portfolios for projects*, which are closely modelled on a generic theme and lead to a documentation of project results. They draw heavily on specific content that could be taught during one lesson.
2. *Portfolios for a school subject* can be set up to document the learning progress in one specific subject (e.g. mathematics). This kind of portfolio is used over the period of an entire course (e.g. one term). With it, the learning progress can be documented in the respective subject, using a portfolio as an instrument for summative diagnosis. Therefore, these portfolios can stimulate individualization teaching in that specific subject.
3. *Portfolios for different school subjects* that focus on the learning processes of several subjects. They document inter-subject learning processes and therefore may contain learning examples of every subject that is addressed with the portfolio (e.g., math, biology, physics). They also reflect personal developmental improvement alongside a curriculum.

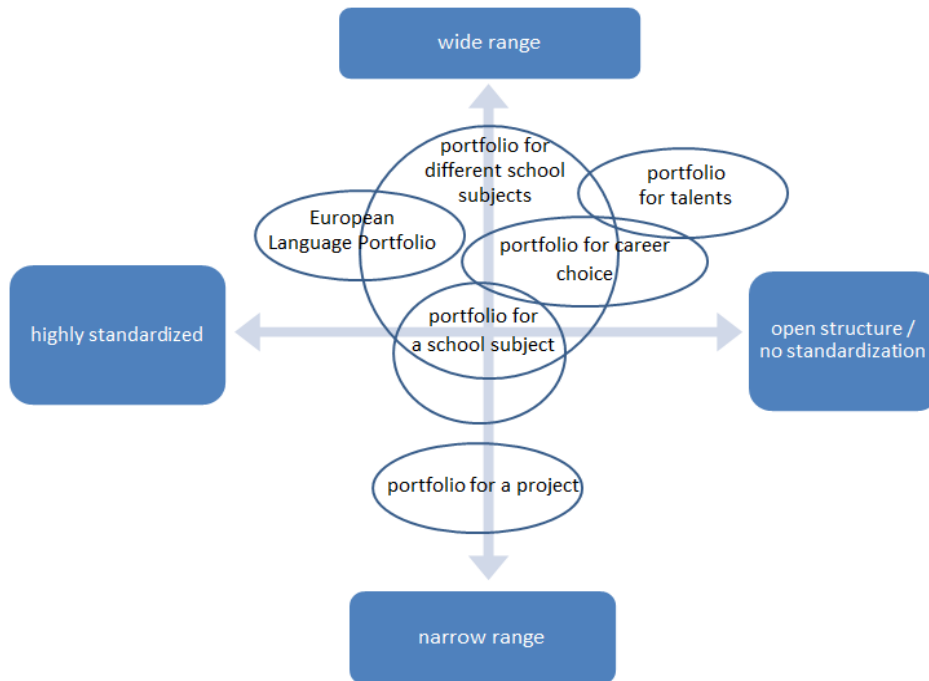


Figure 3: Examples of different portfolios that are currently used in Germany (see Dammers et al. 2015); figure based on Winter 2012.

4. *Portfolios for talents* are based on an open documentation of talents, abilities and interests. For this reason, a low degree of standardization is needed (see Winter 2012: 57).
5. *Portfolios for career choices* can be used as an application tool. They document professional interests and skills (for an example, see Pluzar & Haslinger 2005).
6. *The European Language Portfolio (ELP)*, which is based on the CEFR, focusses on learning progress and documentation of multilingualism. It uses standardized scales and competence descriptions of the CEFR and allows a documentation of formally and non-formally acquired language skills. It is therefore an example of a highly standardized portfolio.

7. Similarities of the ELP and the workplace-oriented Alphaportfolio

Using a portfolio in multinational learner groups makes standardization necessary. An orientation towards the ELP seems to be the right way to go, since it can be translated into different languages and used with different translations in class. Even with ten different languages in class a teacher will know what the learners are documenting if he/she looks at the original version of the portfolio. Since the workplace oriented Alphaportfolio was developed to be used in multilingual teaching settings, it has clear parallels to the ELP and portfolios for career choices. Figure 4 illustrates this.

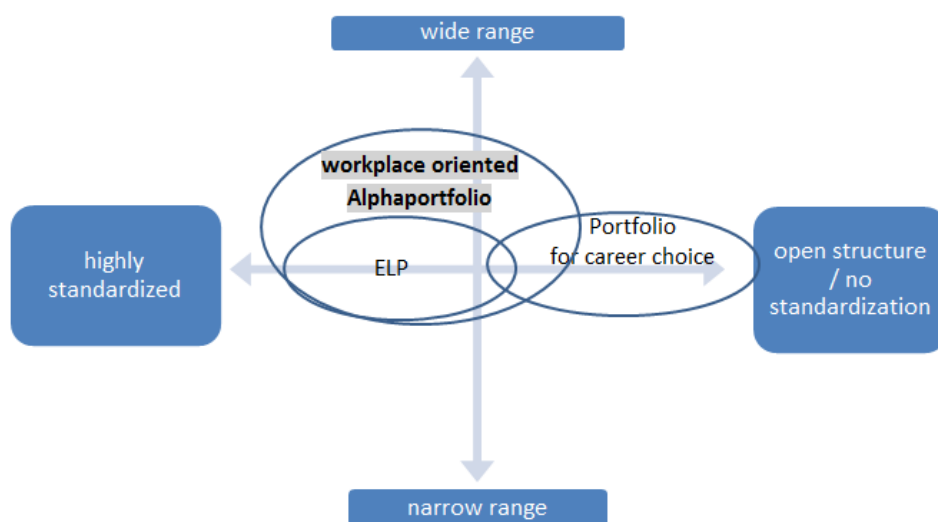


Figure 4: *The workplace-oriented Alphaportfolio within the dimensions width and standardization (see Dammers et al. 2015; figure based on Winter 2012)*

Figure 4 illustrates that the workplace-oriented Alphaportfolio shows similar features as those of a portfolio for career choice and of the ELP. Therefore, the Alphaportfolio can be used as a documentation of the professional experiences, skills and interests of learners. At the same time, its standardization allows the translation into different languages (Arabic, English, Greek, Kurdish, Russian, Tamil and Turkish) which makes it possible to use it in multilingual contexts. Since the main target group are illiterates it is oriented, but not based on the scales and descriptors of the CEFR. In addition to the documentation of professional experience, interests and skills it is also used to document formal and non-formal language skills (oral or written).

There are only a few portfolios for literacy classes on the market (e.g. Feldmeier 2012 for German; Stockmann 2006 for Dutch; see also Cito 2008) characterized by the typical structure of the ELP:

- the Language passport,
- the Language biography and
- the Dossier.

With the *Language Passport* learners can document their multilingual competences by a self-assessment. The focus lies in the linguistically relevant aspects of language learning as described by the CEFR: listening, reading, spoken interaction, spoken production and writing (see levels A1 to C2 of the CEFR; Council of Europe 2001). Furthermore, the Language Passport is an overview of important steps in the language learning process, keeping records of intercultural experiences and acquired certificates. It thus serves as proof of multilingualism of a learner.

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The *Language Biography* focuses on the language skills and learning experiences in a much more detailed way than is possible with the language passport. For example, it reflects the development and use of learning strategies (see Bimmel & Rampillon 2000; Wolf 2006), of non-formal language related experiences or of personal learning goals. The language biography also allows setting and keeping track of individual learning goals.

The *Dossier* is a folder where the learner collects examples and products of his/her learning process. It may contain the best examples; used in this way it is similar to the portfolio of an artist and contains the latest and best productions. On the other hand, it may contain a chronologically arranged set of examples and products that reflect different developmental and learning stages (e.g. different versions of an application for employment); used in this way, the dossier can also reflect the individual learning progress. Within the workplace

oriented Alphaportfolio the Dossier is used to document in chronological order all Learning Agreements (for that see section The Learner Agreements) and exercises related to them. It also could contain the learner's own texts, spoken audio texts, video recordings, etc. It should be noted that like the other elements of the ELP, the Dossier shouldn't be used isolated from the Language Passport and the Language Biography. The Language Passport, Language Biography and Dossier must be used in interrelation to each other. The Dossier is not a folder for every worksheet done in class independently of the goals set in the portfolio.

8. Problems working with the ELP and other portfolios in literacy classes

Stockmann (2006: 152) points out that the ELP is not suitable for use in literacy classes. An important reason for this is the complexity of the language, and of course, the fact that literacy learners cannot cope with written texts like the competence scales of the CEFR.

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Figure 5: Example for self-assessment (p. 61, workplace-oriented Alphaportfolio A1/A2; Feldmeier et al. 2015)

The use of portfolios in literacy teaching, therefore, implies is a strong linguistic and literary simplification (see Noack et al. 2013). Grammatical simplification is necessary: "I can use simple phrases and sentences to describe where I live and

people I know.” (see European Council 2001: 26) could be simplified to “I use simple phrases and sentences. I describe my home and my people.” In addition, it should be ensured that sufficient visuals are included. Whenever possible, visuals should replace language or at least complement it (for an example, see “Alphaportfolio von A bis Z”, Feldmeier 2012). One example of this in the workplace oriented Alphaportfolio are the self-assessments of language skills that are based on simple visualizations symbolizing three command levels (“thumbs up”, “thumbs centred”, “thumbs down”; see Figure 5).

The probably most important problem to be pointed out is that using a portfolio in the classroom – as mentioned before – will ultimately change the teaching in the long-term (Volkwein 2010). Working with a portfolio while trying to keep the rest of the teaching unaffected by it makes its use unnecessary. If a learner sets a goal in the Learner Biography, for instance “I drive a car.” the teacher has to react to this goal. He/she has to find or develop suitable teaching materials for the learner, so that if one month later the learner reassesses this goal, he will have a chance to see a progression. Thus, setting goals without any pedagogical reaction of the teacher is pointless. Defining individual goals leads to a lot of work for the teacher if the needed teaching materials are not available.

9. The workplace-oriented Alphaportfolio, the learning agreements and the learning stations

The problems described above made the development of further materials essential, since just offering a workplace oriented portfolio to teachers wouldn't be enough. Most teachers would be overwhelmed by the workload that would follow after implementing the portfolio. Therefore, adequate teaching materials apt for individualized learning were also developed (see section about the Learning Stations). The materials form a system and are composed of three components: the Workplace oriented Alphaportfolio, the Learning Agreements and the Learning Stations. In principle, it is possible to use these components individually in class, but this could hinder or reduce the development of learner autonomy (see Schmenk 2014). In the following section, these three instruments are described (see for more information about the materials <http://www.uni-muenster.de/Germanistik/alphaportfolio/download.html>).

9.1. The workplace-oriented Alphaportfolio

As mentioned before, the structure of the Alphaportfolio resembles the structure of the ELP or similar portfolios (Schneider et al 2001; Milestone portfolio 2003a; 2003b; Language and Qualification Portfolio 2005a; 2005b; DVV 2006; see for a portfolio for teachers Newby et. al undated). For this reason the Alphaportfolio consists of a Language Passport, Language Biography and a Dossier. Within those parts different sections can be identified, such as "Me", "My Languages", "My Class" and "My Learning" (see Table 1).

Table 1: Sections contained in the "Alpha Portfolio A1/A2" and in the ELP (see Feldmeier et al. 2015).

„Me“	personal data, e.g., family, important experiences, physical and personal traits, personal interests
„My Languages“	information about the language command, e.g. domains, learning dates and time, degree of command for different language activities
„My Class“	important organizational data about the attended class, e.g., other learners of the class, personal attendance list
„My Learning“	information about learning strategies, communication strategies and use of media
„Dossier“	examples of the learning process

In distinction to the ELP, the Alphaportfolio contains other sections that were added to allow an orientation towards the workplace. Table 2 show these:

Table 2: Sections contained in the "Alpha Portfolio" in addition to the sections contained in the ELP

„My Work“	information on past and present experiences in working life, e.g. needs and future goals, organizational information on past and present (work) life, important aspects concerning employment, second language and bilingual skills, interests and goals in second language and multilingual learning, domain-specific goals and interests and strategies for job-searching
„My Goals“	Information about job-related interests and goals, corresponding procedure plans and self-assessment grids

A glance at the Tables 1 and 2 could lead to the impression that 110 pages of the Alphaportfolio build a too extensive tool that could not be used in class. That interpretation would be misleading: it consists of templates that can be copied or

printed in order to compile an individual portfolio. The portfolios of every single learner will vary depending on individual experiences, skills and goals. It is definitely not meant to be worked through as this is usually done with a textbook. Thus, for instance, it would be wrong to share out one single page of the portfolio for all learners of a class to work on. Not every learner wants to work with a set of portfolio-pages and not all learners working with a portfolio want to do so in the same way, the same time and at the same pace.¹

9.2. The learning agreements

The Learning agreements (see Figure 6) represent the instrument that connects the Alphaportfolio and the learning stations. Learners define their Learning agreements based on their own portfolios (or/and based on a previous Learning agreement). It is important to note that after defining the Learning agreements, the learner has to work them off (for a more detailed explanation of how to use the Learning agreements, see section The learning agreements). Since Learning Agreements should be defined regularly, the working period is set initially. Additionally, the name of the learner is added (see Figure 6).

Wochenplan für die Woche vom _____ bis zum _____

Vorname: _____

Nachname: _____




Datum	Station	Fertigkeit	Aufgabenebene	Stufe	Aufgabe	Wie lange?	Leicht oder schwer?
_____. 2014		 	    	☐ ☐ ☐ ☐ ☐		_____ Minuten	 ☐ ☐ ☐ ☐ ☐ 
_____. 2014		 	    	☐ ☐ ☐ ☐ ☐		_____ Minuten	 ☐ ☐ ☐ ☐ ☐ 
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Figure 6: Learning agreement for the A1 level (see Alphaportfolio Wochenplan A1)

Date	Station	Skill	Exercise level	Degree of difficulty	Exercise number	Time?	Easy or hard?
							

Figure 7: Header of the Learning agreement for the A1 level

Figure 7 shows the different parameters that can be defined by the learner. In the beginning, the name of the “Learning station” (e.g., kitchen/activities) is noted. Then the skill (i.e., listening, speaking, reading and writing) and the level for the exercise (i.e., phonemes, syllables, words, sentences, texts, grammar, cards or games) are defined. Finally, a degree of difficulty (i.e., easy, middle and hard) is marked. With this information, the learning agreement is set and can be worked off. In the remaining columns the learner documents the date, the page number of the exercise, the time needed and assesses the difficulty after he/she finishes every single exercise. It should be noted that just like the Alphaportfolio, the learning agreement is a tool for self-direction and self-evaluation. It is not the right place, for example, to learn spelling (that place would be the learning stations and/or the rest of class). Thus, at this point it doesn’t matter if the spelling of the name of a station is orthographically correct (“ktchn/acvteis” for “kitchen/activities” would be fine). It is also conceivable that a learner notes the name of a station in his/her first language (with a wrong spelling) or defines the station by gluing a photograph or drawing it. The only important thing is that the learner can interpret his/her own learning agreement, so that he/she can take the right exercises out of the learning stations.

9.3. The learning stations

The workplace oriented goals (with four learning stations per goal and level) for the levels A1, A2 and B1 represent the most extensive materials in the project “Alphaportfolio”. The total number of exercise templates excels 7000 (see Table 5). Table 3 shows the different workplaces that are addressed by the project.

As Table 3 shows, the levels A1 and A2 contain only jobs (workplace oriented goals) that typically are done by formally unskilled people. The goals 11-14 in the B1-level (still in development) are on the other hand some that require a formal education in Germany. Table 3 also shows that the workplaces in A1-level are contained in the A2-level and these are contained in B1-level. Every one of these workplaces consists of four stations shown below in Table 4.

Table 3: *Workplace oriented stations for the levels A1, A2, B1*

A1 level	A2 level	B1 level
1. garden	1. garden	1. garden
2. kitchen	2. kitchen	2. kitchen
3. warehouse / factory	3. warehouse / factory	3. warehouse / factory
4. sewing	4. sewing	4. sewing
5. cleaning	5. cleaning	5. cleaning
6. selling	6. selling	6. selling
	7. construction (help)	7. construction (help)
	8. care (help)	8. care (help)
		9. child care
		10. taxi driver
		11. goal (with vocational training)
		12. goal (with vocational training)
		13. goal (with vocational training)
		14. goal (with vocational training)
		15. generic workplace-oriented competences

Table 4: *Learning Stations within every single workplace in the levels A1-B1*

			
activities	hardware	places	labels

This is important, since every Learning Station has exactly the same exercise structure based on only one text. So, the text of any learning station at the A1 level is contained in the text of the same learning station at the A2 level and this one is contained in the text of the same learning station at the B1 level. This enables to work on one workplace but at different levels. A learner could work on the workplace “kitchen/activities” for the skill “writing” with syllables at the A2 level and for the same workplace on the skill “listening” with sentences at the A1 level. The differentiation of every single text is based on stations (activities, hardware, places, labels), skills (listening, speaking, reading and writing), on levels (letters, syllables, words, sentences, texts, grammar, cards and games) and degrees of difficulty (easy, middle and hard). Table 5 displays the number of learning stations and pages learners could work with.

Table 5: *Learning stations and templates for the CEFR levels A1-B1*

CEFR level	Number of texts (= learning stations)	Number of templates in every learning station	Total number of templates for all workplaces
A1	24	84	2.116
A2	32	66	2.212
B1	40	46	1840
B1	16	46	736
B1	4	46	184
Total number of templates:			7.088

For the workplace oriented goal “garden” and its learning station “hardware” the text on the A1 level has 58 words in a talk between three persons. The equivalent text on the A2 level is extended: it has one more interlocutor and the interlocutors already appearing in the A1 level talk more. Table 6 shows an example for one possible way to extend the A1 level text.

Table 6: *Extension of the A1 level text to the A2 level text*

A1 level	Milan:	Hi Fatih! We will clean up the warehouse.
A2 level	Milan:	Hi Fatih! This house is Mrs. Meiers’ house. We will clean up the warehouse behind the house. Helene, we will check if all gardening tools are in place. That will be your assignment for today.

9.4. Three Steps to learner autonomy

As noted before, the Alphaportfolio, the learning agreements and the learning stations build an interrelated system. By using these instruments together, learner autonomy can be developed. The most important aspect is hereby reflective learning.

As mentioned before, the learning agreement is worked off. The learner notes the date, the number of the exercise and evaluates its difficulty. After that, there are two options:

- A new learning agreement is defined based on the former learning agreement. If, for example, one exercise was evaluated as hard the next

learning agreement could define the same exercise, but with an easier degree of difficulty (alternatively an easier skill or a lower level).

- The learner can return to the Alphaportfolio and reassess his development concerning the targeted workplace and learning station. This would then lead to a definition of a new learning agreement that has to be worked off (as described above).

10. First results

Very quickly, it became clear in the project that the literacy classes in an individualized teaching setting (e.g., working with a portfolio) was quite new territory for learners and teachers. This was expected, since many learners in the classes have little or no schooling experience (see also Ballweg 2009; Benndorf-Helbig 2005; Feldmeier 2010; Noack et al. 2013; Vogler 2011). However, the teachers seem to play the crucial role in the project. They were easily overwhelmed by the use of the materials. Leaving one's teaching patterns behind and letting learners take responsibility for the learning process was hard for teachers. It seems that teachers, more than learners, need to grow into using a portfolio and individualized materials (see also Dammers in press). Nevertheless, the results are considered to be positive: some of the students and cooperating teachers could make clear progress towards learner and teacher autonomy, while other learners' and teachers' adherence to usual teaching methods was observed. Workplace-oriented topics could be implemented in literacy classes.

After completion of the project, the materials are planned to be uploaded. At the moment, software is in development simulating the learning agreement and allowing printing of the defined exercises. Printing the materials in advance would be unnecessary. The project's results will be presented in September 2015.

Looking into the future of literacy training in Germany, further investigation into the possibilities of self-directed and self-evaluated learning is needed. This should expand the methods and individualized materials developed in this project (e.g., counselling systems for literacy classes as done by Markov et al. 2015; Markov & Scheithauer 2013).

Note

- 1 The workplace-oriented Alphaportfolio is available as a specimen copy for the levels A1/A2 and A2/B1 in German as a second language (the differences between the A1/A2 and A2/B1 portfolios primarily relate to the layout and linguistic complexity). Due to the overlap of these two versions at the A2 level, learners may decide whether to work with the A1/A2 or A2/B1 version. So far, the portfolio for the levels A1/A2 has been translated into Arabic, English, Greek, Kurdish, Russian, Tamil and Turkish. For the German versions there are also audio tracks available, containing the head information of every page (e.g. "This is me. This is how I see myself: My physical traits", see workplace-oriented Alphaportfolio: p. 5).

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LITERACY INFLUENCES COGNITIVE ABILITIES FAR BEYOND THE MASTERY OF WRITTEN LANGUAGE

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Abstract

Recent experimental evidence from cognitive psychology and cognitive neuroscience shows that reading acquisition has non-trivial consequences for cognitive processes other than reading per se. In the present chapter I present evidence from three areas of cognition: phonological processing, prediction in language processing, and visual search. These findings suggest that literacy on cognition influences are far-reaching. This implies that a good understanding of the dramatic impact of literacy acquisition on the human mind is an important prerequisite for successful education policy development and guidance of educational support.

Keywords: cognition, literacy, phonology, reading, visual search

1. Introduction

About 16% of the world's adult population today lack "the ability to read and write with understanding a simple statement related to one's daily life" (UNESCO Institute for Statistics, 2013). What consequence has illiteracy on human cognition? Scholars have speculated about the impact of reading and writing on human cognition and society at large almost as soon as writing systems were invented (see Huettig & Mishra 2014, for a recent review). Plato regarded writing an inhuman and alien technology with a strong potential for detrimental effects on memory and weakening the mind more generally (Ong 1982). Goody and Watt (1968) pointed out that writing preserves what is said and thereby, they argued, facilitates critical debate and thinking. Similarly, Havelock (1963) proposed that it was literacy which led to modern society because it encouraged explicit definitions of terms and logical analysis. McLuhan (1962) pointed out that the invention of the printing press led to a shift from oral to silent reading. This resulted in a more fundamental separation of spoken and written language. Finally, Ong (1982) made the case that writing

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transforms spoken language into an object of thought and reflection (see also Vygotsky 1978, for a similar view). It is difficult to evaluate these claims without considering evidence from controlled experimental studies. Over the last thirty years cognitive psychologists and neuroscientists have experimentally investigated the effects of literacy acquisition on the human mind. In the present chapter I present evidence from three areas of cognition (phonological processing, prediction, and visual search) which suggest that literacy has significant cognitive consequences that go far beyond the processing of written words and sentences. This evidence suggests that the ability to read shapes general cognitive processing in non-trivial ways.

2. Effects of literacy on phonological processing

Many studies have found important differences in illiterates' phonological awareness. Morais, Cary, Alegria, and Bertelson (1979) first demonstrated that phonemic awareness (i.e. the knowledge that all words can be decomposed into smaller segments and the ability to manipulate these segments) is not acquired spontaneously but requires specific training. Thirty illiterates and thirty late literates (who had taken part in adult literacy programs after the age of 15) from Portugal were asked to add or delete one phoneme (e.g., /p/) of a word. Mean correct responses on non-word trials were 19% for illiterates but 72% for late literates. Many subsequent studies have replicated these results. It is typically observed that illiterates perform better on tasks that require manipulation of units of larger phonological grain size such as syllable detection (Morais, Content, Cary, Mehler, & Segui 1989) and rhyme awareness (Morais et al. 1986; Adrian, Alegria, & Morais 1995) than units of smaller phonological grain size such as phonemes. It is important to note that it is not the ability to read and write per se but the knowledge of an alphabetic script which results in phonemic awareness. Read, Zhang, Nie, and Ding (1986) in this regard found that phonemic awareness of Mandarin Chinese readers who had no alphabetic knowledge was similar to illiterates. In contrast, phonemic awareness of Mandarin Chinese readers who had alphabetic knowledge (the Chinese pinyin) was similar to those of late-literates.

The question whether performance in phonological awareness tasks is an important ability is a valid one since phonological awareness is not necessary for understanding and producing speech. Reis and Castro-Caldas (1997) conducted experiments in which participants were required to repeat words and pseudowords (i.e. non-existing 'words'). Pseudoword repetition is a task which requires both explicit and implicit phonological processing and is

therefore better suited to assess phonological abilities. They found that illiterates performed much worse than literates in repeating pseudowords. Illiterates however performed as well as literates when they had to repeat real (i.e. existing) words. These results suggest that the absence of reading acquisition leads to impoverished processing at the level of sublexical phonological structure (cf. Petersson et al. 2000).

We (Huetting, Singh, & Mishra 2011) have recently used an online method (visual world eye-tracking) to study the effect of literacy on moment-by-moment phonological processing. Such methods are important because phonological processing happens over very short periods of time and phonological effects are transitory and dynamic in nature. Moreover, it is essential to use experimental techniques that allow the researcher to measure ongoing processing while participants' task activities are not interrupted. In our study, participants listened to simple spoken sentences such as '*Today he saw a crocodile*'. At the same time they were looking at a visual scene of four objects while their eye movements were measured for later analyses. It is important to realize that fixations and saccades are relatively discrete events. Data from a single trial by a participant thus cannot provide information about the continuous processing of the speech signal. However, by averaging across trials and participants it can be computed how likely listeners are on average at a given moment in time to look at each of the areas of interest in the visual scene. Inferences about the time course of the underlying cognitive processes based on these eye gaze data can be drawn (see Huetting, Rommers, & Meyer 2011, for further discussion and a recent review of the method). By measuring looks to phonological and semantic competitor objects in the visual scene it can be examined how individuals differing in literacy use phonological and semantic information. In our first experiment in India, 42 high literates of Devanagari script with fifteen mean years of formal schooling (range: 13-17 years) and 32 low literates of Devanagari script with two mean years of formal schooling (range: 0-9) listened to the sentences containing a critical word (e.g., 'magar', crocodile) while looking at the visual scene. The visual scene contained a phonological competitor of the critical word (e.g., *matar* 'peas', the Hindi words *matar* and *magar* are phonological similar), a semantic competitor (e.g., *kachhuwa*, 'turtle', both turtles and crocodiles are reptiles) and two completely unrelated distractor objects. In our second experiment the semantic competitors were replaced with another unrelated distractor object. We observed that both low and high literates looked to the semantic competitors in Experiment 1. High literates, in both experiments, shifted their eyes towards phonological competitors as soon as phonological information became available. Moreover, high literates moved their eye gaze away as soon as the acoustic information mismatched. Low-literates on the other

hand only used phonological information when semantic matches between spoken word and visual referent were not possible (i.e. in Experiment 2 when no semantic competitor was present in the visual scene). Furthermore, in contrast to high literates this phonological word-object mapping in low literates was not closely time-locked to the concurrent speech input. Overall these findings suggest that low literates do not exploit phonological matches between spoken words and visual referents for language-mediated visual orienting in such an efficient manner as high literates.

Computational modeling is a means by which mechanisms that drive effects of literacy can be isolated. We (Smith, Monaghan, and Huettig 2014) recently used modeling to test the hypothesis that increases in the granularity of phonological processing elicit the literacy-related changes (cf. Ziegler & Goswami 2005). To this end we constructed three connectionist models with phonological representations of varying grain sizes (fine, medium, coarse). The representational structure in the fine grained model involved distinct componential sequences of phonemes (target and competitor shared their initial two phonemes). In the moderate grained model in contrast two components similar to 'onset' and 'rime' representations were encoded for each word. Finally, the coarse grained model contained only a single component (similar to a word-level representation). The fine grained model showed 'eye gaze' to phonological competitors closely time-locked to the unfolding speech signal. In other words it performed very similar to the fixation behavior of high literates. The coarse grained model in contrast performed very similar to low literates. There was no time locking between speech signal and looks to phonological competitors. These connectionist simulations therefore provide further support that literacy results in changes in the grain size of phonological mappings. In short, literacy acquisition has substantial consequences on phonological processing: after learning to read our speech processing will never be the same

3. Prediction of up-coming words during speech processing

A second influence of written language on spoken language that I would like to mention here concerns the prediction of up-coming words in spoken language processing. There is plenty of evidence from other domains of psychology that individuals' ability to anticipate upcoming events is modulated by their level of expertise at the task at hand. Studies in the field of sports psychology have found that athletes' prediction abilities are strongly related to their proficiency levels. Elite basketball players anticipate the success of free shots at baskets earlier and more accurately than people with comparable visual experience (i.e.,

coaches and sports journalists, Aglioti, Cesari, Romani, & Urgesi, 2008). Professional volleyball players are better than amateur players in predicting the landing location of volleyball serves (Starkes, Edwards, Dissanayake, & Dunn 1995), etc. This connection of high levels of ability and prediction is typically explained by the fine-tuning of specific anticipatory mechanisms that enable athletes to predict others' actions prior to their realization (Aglioti et al. 2008).

We (Mishra, Singh, Pandey, & Huettig 2012) explored whether predictive language processing is influenced by language experience. Specifically we investigated whether high proficiency in reading is related to anticipatory language-mediated eye-movements. This possibility arises because many psycholinguistic experiments have shown that one reason why language processing tends to be so effortless, accurate, and efficient is that mature (e.g., DeLong, Urbach, & Kutas 2005; Federmeier & Kutas 1999; Van Berkum, Brown, Kooijman, Zwitterlood, & Hagoort 2005; Wicha, Moreno, & Kutas 2004; Huettig, 2015, for recent review) and developing (e.g., Borovsky, Elman, & Fernald 2012; Nation, Marshall, & Altmann 2003; Mani & Huettig 2012) language users anticipate upcoming words during language processing. We presented Indian low and high literates (i.e. groups with similar characteristics as in the eye-tracking study described above) with simple every day spoken sentences containing a critical word (e.g., "door"). Participants listened to these sentences while they looked at a visual display of four objects (the target object, i.e. the door, and three unrelated distractor objects). We constructed the spoken Hindi sentences in such a way that syntactic markers and semantic information in the sentence could be used to predict the upcoming target. Eye movements to the visual target objects and distractor objects were measured. We observed that the high literacy group started to move their eye gaze to the target object well before target word onset. The participants in the low literacy group in contrast did not anticipate the targets and looked at the target objects only more than a second later (that is only when the target object was mentioned in the speech).

These initial results suggested that literacy modulates predictive spoken language processing. Reading proficiency therefore appeared to influence prediction even in basic every day spoken language processing but further evidence seemed required. It is difficult to exclude the social reasons behind one group being illiterate from having an influence on their performance. Literate and illiterate adults tend to differ in many aspects such as socioeconomic status, general education, parental education, childhood nutrition, access to medical care and many other factors. We therefore attempted to find converging evidence for the connection between literacy and prediction by testing children as they learn to read. Moreover, by observing correlations between children's developing reading skills and their performance in language-based tasks allows

investigation of the individual differences in processing. This may provide more information as to individual-specific reasons why reading acquisition interacts with prediction. We (Mani & Huettig 2014) therefore investigated the role of word and pseudoword reading skills on listener's prediction of upcoming spoken language input in children at the cusp of literacy acquisition. 8-year-old German children were presented with a visual display containing two familiar objects (for example a cake and a bird). The children heard sentences as "Der Junge isst den großen Kuchen" (The boy eats the big cake) as they looked at the visual display. We tracked their eye movements across the visual display and examined the correlation between children's performance in the anticipation eye-tracking task and their reading abilities. The children, like in previous studies (e.g. Mani & Huettig 2012), were successfully able to predict upcoming spoken language input. More importantly, there was a robust positive correlation between children's word reading (but not their pseudo-word reading and meta-phonological awareness or their spoken word recognition) skills and their prediction skills. Those children who performed better in the word reading task were more able to predict upcoming linguistic input and fixated thematically appropriate objects soon after the onset of the semantically constraining verb (i.e. after hearing the verb 'eat'). These results (from children growing up in the same area with similar exposure to literacy) provide further support for the notion of a relationship between children's literacy skills, specifically their real-word reading skills, and their ability to predict upcoming spoken language input.

In another recent study we looked at this link between reading abilities and anticipation in adults with dyslexia. We reasoned that if reading ability mediates predictive language processing then we should find evidence for this in adults with dyslexia. There are no previous studies that have explored anticipatory spoken language processing in individuals with dyslexia. Nation and colleagues (2003) showed skilled and less skilled comprehenders (children of 10 or 11 years of age) a visual scene. At the same time the children heard spoken sentences such as "Jane watched her mother choose the cake" (all objects in the scene were choosable) or "Jane watched her mother eat the cake" (the cake was the only edible object in the display). The less skilled comprehenders were matched to the skilled comprehenders for nonword reading scores but scored below average on a reading comprehension test. Nation et al. found that skilled and less skilled comprehenders did not differ in the speed of their language-mediated anticipatory eye movements to the target objects. Two studies looked at general non-linguistic anticipation skills in children with dyslexia. Stoodley and Stein (2006) observed that children with dyslexia and poor readers showed a general motor slowing related to a general deficit in processing speed.

Moreover, Wolff (2002) observed that individuals with dyslexia (10 to 16 years of age) took three or four times as long as normal readers to anticipate the signal of an isochronic pacing metronome during a motor sequencing task. The individuals with dyslexia also took significantly longer than normal readers to switch back to anticipation mode after an abrupt change in the metronome rate. We (Huettig & Brouwer, 2015) tested Dutch adults with dyslexia and a control group of adults with no history of reading disorders in two eye-tracking experiments. In Experiment 1 we assessed whether adults with dyslexia show the typical language-mediated eye gaze patterns observed in previous research with adults with no reading impairments. The eye gaze of both adults with and without dyslexia closely replicated earlier research. Both groups used spoken language to direct attention to relevant objects in the environment in a closely time-locked manner. In Experiment 2 our participants received instructions (e.g., "Kijk naar de_{COM} afgebeelde piano_{COM}", look at the displayed piano) while at the same time viewing four objects. The Dutch articles ("het" or "de") were gender-marked such that the article agreed in gender only with the target. Our participants could therefore use gender information from the articles to predict the target object. We observed that the adults with dyslexia anticipated the target objects but much later than the controls. As for our study with the 8-year-old German children (Mani & Huettig 2014) participants' word reading scores correlated positively with their anticipatory eye movements.

In sum, we observed that high but not low literates anticipate up-coming target objects. Word reading scores significantly correlated with anticipatory looks in eight year-olds. Adults with dyslexia show significantly delayed anticipatory eye movements. What might be the reason for this consistent influence of literacy on anticipation? A full explanation is likely to be complex. One possibility is that reading leads to stronger associations also when spoken language input is processed. This explanation fits with the notion of literacy as a proxy for experience. Borovsky, Elman, and Fernald (2012) for example observed that children aged 3 to 10 with relatively high vocabulary knowledge are faster to anticipate target words than children with lower vocabulary knowledge. It is also conceivable that production-related mechanisms of prediction play a role. Written language experience in children has been observed to increase the spoken production of relative clause sentences (Montag & MacDonald 2014). Another possibility I want to raise here is that the process of learning orthographic representations during reading acquisition sharpens pre-existing lexical representations. Orthographic exposure provides listeners with orthographic representations which may result in lexical representations becoming richer and sharper and available more quickly during online speech processing (Mani & Huettig 2014).

4. Spatial biases and visual search

In the last two sections I presented evidence for the influence of learning to read and write on spoken language processing. With the final example I chose for this chapter I want to demonstrate how the effects of literacy extend beyond language processing to (seemingly) unrelated areas of cognition such as visual search. Literacy has been found to have substantial effects on the way we sample the visual world such as when we are looking for something among distracting objects.

It is important to know first that in the broader human population there is a general left hemifield (that is right hemisphere) bias in tasks requiring fine discrimination of visual stimuli (Jewell & McCourt 2000; Kimura 1966; Landau & Fries 2012; Nicholls & Roberts 2002). Importantly however several studies with illiterate and literate participants have shown that there is an additional directional bias due to the direction of the writing system individuals are exposed to (for example, left-to-right or right-to-left writing). Urdu is a language written in right-to-left direction using the Persian script. Padakannaya et al. (2002) observed that illiterate Urdu speaking adults did not show any right-left bias. They administered two tasks, naming linearly arranged pictures and recall of linearly arranged pictures after brief exposure. Literate Urdu speaking adults however did show such a right-to-left scanning bias. Padakannaya and colleagues concluded that directional scanning habits are a consequence of reading habits.

Vaid et al. (2002) asked their participants to draw a quick sketch of simple objects (for example, a pencil, a fish, a house). They found that script directionality and handedness affected preference for drawings in literates. Right and left-handed Urdu literates however showed a right-to-left stroke bias. Illiterates however, as predicted, showed no overall bias (right-handed illiterates showed a left-to-right stroke bias and left-handed illiterates showed a right-to-left stroke bias). The authors concluded that hand movement-related directional biases and directional scanning biases arise at least partly from reading and writing experiences (cf. Dobel, Diesendruck, & Bölte 2007; Eviatar 1995, 1997, 2000; Maas & Russo 2003).

Brucki and Nitrini (2008) conducted a study with illiterate and low literate river bank dwellers of the Amazon region of Brazil. Participants were shown random arrays of geometric visual stimuli and were asked to mark every open circle with a single slanted line as fast as they could. The authors found that illiterates were much more likely than the low literates to conduct a random search for the target circles. Bramao and colleagues (2007) asked illiterate and literate participants in Portugal to touch visual targets as quickly as possible on

a computer screen (for example a red square among yellow squares). The illiterates performed less accurate and slower compared to the literates in target detection. Importantly, literates were faster in detecting the target objects on the left side of the screen (in line with left-to-right script direction). Illiterates however did not show any directional bias.

The above studies suggest that there are literacy-related differences in selective attention. These studies however leave some questions open. Are the differences observed just due to less experience with abstract geometric stimuli? Do these effects reflect attentional processes? Or, do they reflect processes at stages after target selection has taken place (for example decision or response selection processes)? We (Olivers, Huettig, Singh, & Mishra 2014) tested low to high literacy observers in India in two experiments. Each experiment contained an easy and a more difficult visual search task. In the easy task participants were asked to find a red chicken among green chickens (a color 'pop-out' search). In the difficult task participants were asked to find a skinny chicken among fat chickens (a shape search). The task involved looking for different types of chicken to avoid that low literates had an immediate disadvantage. We observed that low literates were slower in both experiments. More detailed analyses of reaction times and eye movement analyses showed that the slowing was to some extent due to differences in parallel sensory processing. The main differences between the groups however occurred post-selection. First, low literates were slower to generate the manual response after target fixation. Second, both groups differed in the distribution of search performance across the visual display. High literates performed particularly well in central and right parts of the visual field. This suggests that learning to read results in an extension of the functional visual field from the fovea to parafoveal areas. It has long been known that reading exploits nonfoveal visual information. Readers obtain partial information parafoveally about the next word when they fixate the preceding word. Our results suggest that this spatially-specific training of the covert attentional system leads to attentional benefits (that is better search performance) even in non-language tasks. Third, high literates showed a more general bias towards the top and the left compatible with left-to-right reading direction of the Hindi-speaking participants. This suggests that learning to read also leads to asymmetries in scan patterns.

To conclude, in the present chapter I have presented three examples of how literacy has important cognitive consequences which go beyond the processing of orthographic stimuli. First, literacy increases phonological awareness and leads to phonological restructuring and changes in the grain size of phonological mappings. Second, there is strong evidence from studies with illiterates,

children, and adults with dyslexia that literacy skills enhance the ability to predict upcoming spoken language input. Third, learning to read changes the spatial distribution of visual search even for non-linguistic searches and extends the function field of view into parafoveal areas. Literacy is an important skill in literate societies. The results I have presented here suggest that the influences on cognition are far-reaching. It is important that policy makers are aware of these far-reaching effects of literacy on the mind, otherwise there is a real danger that educational policies and pedagogical support will not be efficacious or even be misdirected.

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LITERACY AND PROSODY: THE CASE OF LOW-LITERATE SENEGALESE LEARNERS OF L2 ITALIAN

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Abstract

The influence of L1 literacy on the acquisition of L2 oracy has recently become one of the interests of SLA research. However, what is still missing is an exploration of the development of L2 prosodic competence by low-literate adults learners. To fill this gap, in the present study Senegalese learners of L2 Italian were involved. In Senegal, where literacy acquisition is usually absent in the L1 (mostly Wolof), it is possible to acquire it in French or Arabic, albeit the educational models of the French and Koranic schools are quite different. In French schools writing and reading practices are favored, whereas in Koranic schools speaking and listening abilities are mostly practiced by reciting the Koran. In order to understand the relationship between L1 literacy and L2 oracy in the case of low-literate Senegalese learners of L2 Italian and to verify if the different educational models proposed in Senegal influence L2 prosodic competence even of low-educated learners, perceptual and spectroacoustic analyses were conducted on a corpus of utterances produced by 20 Senegalese and collected through an Elicited Imitation task. Results show a higher level of textual accuracy in French school learners' productions while Koranic school learners show a more skillful reproduction of intonation and rhythm of different Italian speech acts.

Keywords: prosody, L2 Italian, Senegalese learners

1. Introduction

The positive impact of first language literacy on the development of literacy in the second language has been documented in numerous studies (Bialystok 1991; Cummins 1991; Collier 1989, 1995). It has been demonstrated that learners who are already literate in their L1 develop L2 literacy skills faster than non-literate learners. The academic abilities, the cognitive processes and the learning strategies developed in the first language can indeed be transferred to the second language, even in the case of low-literate learners (Mace-Matluck 1982; Lessow-Harley 1990).

The relationship between L1 literacy and L1 oracy has also been consistently investigated. The acquisition of the reading and writing abilities in the mother tongue seems to favor the emergence of the phonological awareness, that is the ability to identify, analyze and manipulate the segments of the phonological structure of words: phonemes, syllables and rhymes (Morais 1989; Adrian, Alegria & Morais 1995; Reis & Castro-Caldas 1997; Loureiro et al. 2004).

Only recently, the influence of the L1 literacy level on the development of L2 oral skills, especially in the case of adult and low-literate learners, has received some attention. A study conducted by Tarone, Bigelow & Hansen (2009) on oral productions of low-literate Somali learners of L2 English demonstrated that the literacy process has an impact on the cognitive and mnemonic mechanisms linked to oral processing in the L2.

Despite the growing interest aroused by the prosodic aspects of interlanguage in the last years, SLA research has neglected to investigate the development of prosodic competence, that is the ability to effectively use intonation and rhythm, in the L2 and by low-literate adult learners.

2. The case of Senegalese speakers

2.1. Literacy in Senegal

Senegal presents a peculiar linguistic situation. French, as legacy of the colonial period, is still the official language of the country although it is spoken only by about 10% of the population. Actually, the first language of Senegalese speakers is Wolof or one of the other national languages of Senegal which are Pulaar, Sérère, Diola, Mandingue and Soninké. All these languages have a high vitality in oral communication but have been officially equipped with a standardized Latin orthography only in the first years of independence, in the early Seventies. Moreover, they have been recently introduced in the Senegalese education system, but exclusively in the preschool level¹. Consequently, in the Senegalese community literacy is not acquired in the L1 but in an L2, either French or Arabic depending on the school. French schools and Koranic schools expose learners to very different models of education (Fall 2011). The French didactic approach mirrors the “European” model, which gives priority to the development of writing and reading abilities and abstract thinking skills leading to metalinguistic awareness. The Koranic schools, instead, adopt an educational approach which is mainly based on oral learning and memorization and which promotes speaking and listening abilities primarily through the reciting of the Koran (Gandolfi 2003). The cognitive style which is favored in this case is thus very different from that of traditional pedagogy since it is characterized by

formulaic, global, redundant and non-analytical expressions (Santerre 1973; Fortier 1997; 2003). It follows that in Koranic schools reading and writing abilities are indeed scarcely trained.

French and Arabic literacy development has not been extended to the entire Senegalese society, even if great improvements have been made in the last decades. Indeed, according to UNESCO data for 2013, only 52.1% of the Senegalese adult population possesses basic literacy skills².

2.2. Senegalese learners of L2 Italian

According to Istat (Italian National Institute of Statistics) surveys for the year 2014, there are 97.781 Senegalese immigrants in Italy who mainly live in the Northern regions³ of the country. The Senegalese community in Naples (Southern Italy), i.e. the city where the present research has been conducted, is not numerically conspicuous, counting only 709 presences. Nevertheless, the Senegalese immigrants represent a very visible minority group for two reasons. The first one is their common occupation as local street vendors and the second one concerns the community's strong tendency to create support structures that also organize public events for immigrants, often in collaboration with other ethnic groups (de Filippo 2003).

The Senegalese migration model observed in Naples, however, is characterized by a strong individualism and a high degree of instability, especially if compared to that of other more stable ethnic groups such as the Chinese or the Srilankan ones. The prototypical Senegalese immigrant is male, aged 35 and above, and usually not married (Maffia et al. 2013).

The present research project has benefited from the relationship established by the authors with the Senegalese community within the context of a voluntary association in Naples, *Scuola di Pace*, which provides Italian L2 courses for immigrants. At the *Scuola di Pace* in 2013-14 the Senegalese nationality is the third by size, with 41 Senegalese learners (only 7 women) on a total of 445 enrolled students from 47 different countries⁴.

The most common profile of the Senegalese learners at the beginning of the L2 Italian course is the following: they usually present a basic and spontaneously acquired oral proficiency in the L2; only a few of them are aware of the structure and function of written texts as they know that texts carry meanings, that letters correspond to sounds and that word boundaries exist. However, regardless of their school attendance in Senegal, their knowledge of the Latin alphabet is often very weak. Moreover, the information about the length of schooling in Senegal is often an unreliable measure of the actual literacy level developed in the language of instruction.

By way of example, a part of a Senegalese learner's placement test for the L2 Italian courses is proposed in Figure 1. Modou reported 13 years of schooling in the home country but even a superficial look at his written production reveals his difficulties in the copying activity. It is clear that not only did the learner spend a lot of time trying to reproduce the graphemes in the different fonts, but he also had problems with the disposition of the graphemes in the space of the paper. In the second exercise, he confused the words *pane* (bread) and *cane* (dog) and he used very uncertain lines to connect the words. Finally, in the case of the oral exercise (number 3), Modou could easily perform the conversational task about his personal data. However, instead of simply answering the questions, he also thought it was necessary to copy the text of the exercise, using dots between the words and alternating different fonts.

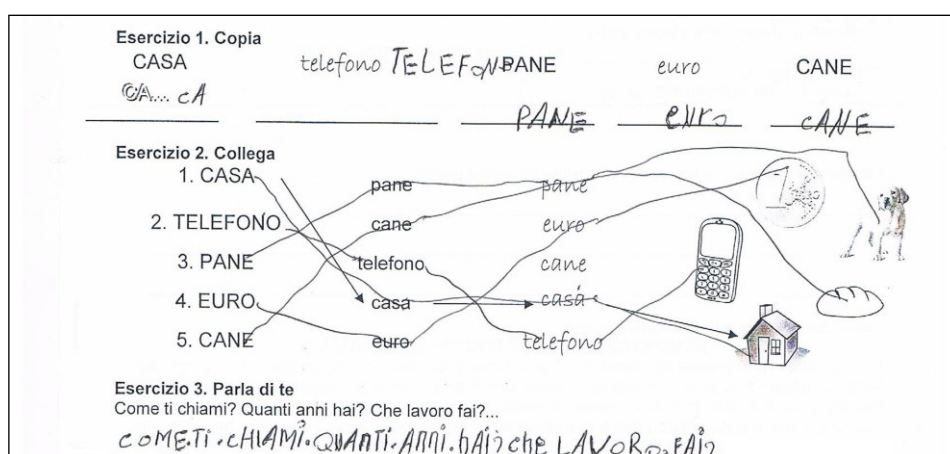


Figure 1: Part of Modou's placement test at the Scuola di Pace

Subsequent to a more in-depth analysis of Modou's educational background it was possible to discover that he attended a Koranic school in Senegal for 13 years, albeit in a very discontinuous way, and it was during these years that he was only partially introduced to reading and writing practices in the Arabic alphabet.

Since the years of schooling and the alphabetic literacy level do not often coincide for these learners, in order to gain a better understanding of their specific linguistic situation and to plan an appropriate didactic intervention for the teaching of Italian, other objective and reliable literacy assessment instruments such as interviews and questionnaires were used.

3. Research questions

The present study aims at answering the following research questions:

- Is there a relationship between L1 literacy and L2 oral skills in the case of low-literate Senegalese immigrant learners of L2 Italian?
- Is it possible that even low-literate learners exposed to a didactic model in which speaking/listening abilities are favored (Koranic school) have an advantage in the development of the L2 prosodic competence compared to low-literate learners from other educational context (French school)?

4. Methodology

4.1. The speakers

To answer these questions, 20 Senegalese learners of L2 Italian were involved in this study. They were all male, mean age 31, living in Italy from 1 to 7 years (Table 1). The administration of a sociolinguistic questionnaire (with the help of a liaison contact in some cases) allowed the authors to collect information concerning their educational and linguistic backgrounds and their language(s) usage. They all indicated Wolof as their mother tongue and, as reported in Table 1, ten of them attended the French school and the other 10 the Koranic school (average of 7 years school attendance for both).

At the moment of the experiment, all the Senegalese learners were attending an L2 Italian course (A1/A2 level of the CEFR, Council of Europe 2001) at the *Scuola di Pace*. Their initial level of L2 Italian competence was assessed through a placement test, aiming to evaluate both oral proficiency and literacy skills. As in the case of Modou described above, all the Senegalese learners had developed basic oral abilities in the second language, but they had very poor literacy skills, independently of the kind of school attended in their home country.

Moreover, in order to obtain more objective data regarding the development of reading and writing abilities in their previous educational paths, a French literacy test was constructed and administered to all the Senegalese participants. The results of this test reported a low level of literacy in French for all the involved learners, corresponding to the 0-2 levels of OECD (Organization for Economic Co-operation and Development)⁵. As regards Arabic, the participants themselves declared their inability to use it in real communicative situations and in reading or writing texts other than the Koran. For this reason, a literacy test for Arabic was not administered.

A group of 5 native speakers of Italian, all men, mean age 32, was also involved in the research as a control group. At the time of the data collection, all the Italian and Senegalese participants lived in Naples.

Table 1: *Participants' profiles: personal data and educational background*

n.	Name	Age	Sex	Years in Italy	Years of schooling	Kind of school
1	Ass	32	M	4	6	French
2	Serigne	29	M	3	10	French
3	Mouhamadou	40	M	1	4	French
4	Elhaji	35	M	3	2	French
5	Mackiou	32	M	6	12	French
6	Matar	28	M	4	6	French
7	IbrahimaG	36	M	3	8	French
8	Cheikh Ibra	29	M	1	4	French
9	Amar	27	M	1	8	French
10	Boubacar	20	M	2	14	French
11	Ibrahima	39	M	5	6	Koranic
12	Babacar	29	M	5	7	Koranic
13	Khadim	31	M	1	5	Koranic
14	Papi	31	M	4	12	Koranic
15	Balla	33	M	6	10	Koranic
16	Cherk	34	M	1	3	Koranic
17	Modou	30	M	4	9	Koranic
18	Doudou	26	M	7	8	Koranic
19	Tamsir	35	M	4	6	Koranic
20	ModouN	34	M	2	10	Koranic

4.2. The task

In order to evaluate the L2 Italian oral skills of Senegalese low-literate learners, an Elicited Imitation task was constructed and administered to all the participants.⁶ They were asked to listen only once to 18 Italian stimuli (henceforth called model utterances) and to imitate them, regardless of the level of understanding of their meaning. It is important to underline that the model utterances were randomly administered and never proposed to the participants in written form.

The Italian model utterances were recorded by a male and a female native speaker. They were plausible sentences and presented different degrees of complexity on the basis of the following parameters:

- sentence length (in syllables);
- morpho-syntactic structures;
- lexical frequency;
- pitch contour (assertion, questions and orders).

In Table 2 examples of model utterances are reported, together with a brief description of their features. We will henceforth make a distinction between simple utterances (from six to ten syllables) and complex utterances (from eleven to twenty syllables). As we will see later, such a distinction will be of fundamental importance in the presentation of the results.

Table 2: *Features and examples of simple and complex model utterances*

	Features	Examples of utterances
Simple model	- 6-10 syllables - Fundamental vocabulary - Simple morphology - (S)VO order - Assertions, questions and orders	- Parlo italiano <i>I speak Italian</i> - Domani è sabato? <i>Is tomorrow Saturday?</i> - Vieni subito qui! <i>Come here, now!</i>
Complex model	- 11-20 syllables - Not basic vocabulary - Complex morphology - Subordination - Assertions, questions and orders	- Fossi in te, non avrei la presunzione di essere impeccabile. <i>If I were you, I would not presume to be impeccable.</i> - Il cortometraggio che hai visto aveva una trama accattivante? <i>Did the short film you saw have a captivating plot?</i> - Te lo ripeto: non devi usare il pedale della frizione! <i>I tell you once again: you must not use the clutch pedal!</i>

The Elicited Imitation task was initially tested with the control group of native Italian speakers, who, as expected, successfully performed it.

4.3. The corpus

The corpus obtained from the administration of the Elicited Imitation task to Senegalese learners and to the control group of Italians is composed of 450

imitations (18 utterances for each speaker). If we also include the models, the total number of collected utterances is 486.

5. Two kinds of analysis

The corpus of imitations was the object of two different kinds of analysis: a perceptual analysis and a spectroacoustic analysis.

5.1. The perceptual analysis

For the perceptual evaluation of the imitations provided by Senegalese learners, 10 Italian native speakers, all experienced teachers of L2 Italian without any specialized competence in phonetics, were involved in the study. They were chosen on account of their familiarity with foreign accented Italian and with the evaluation of non-native productions. Each involved teacher was asked to orthographically transcribe the imitations of two Senegalese learners and to rate them in terms of:

- accuracy;
- type of errors;
- effectiveness of the prosodic performance.

It should be noted that in the Italian context of second language teacher training courses, phonetics, from both a segmental and suprasegmental point of view, is often not considered a priority component of the syllabus. This neglect not only leads to a lack of awareness on the part of the L2 teacher as to the importance of phonetic and prosodic aspects, but this inattention is also reflected in L2 Italian textbooks as well as in L2 Italian classes⁷.

5.2. The spectroacoustic analysis

The spectroacoustic analysis was conducted with the use of Wavesurfer 1.8 (Sjölander & Beskov 2010) and Praat 5.3 software (Boersma & Weenink 2013). For every utterance the following parameters were measured:

- duration of segments (sec);
- duration of syllables (sec);
- durations of silent pauses (sec);
- F1 and F2 of vowels (Hz);
- F0 of vowels (Hz, then normalized in semitones).

A total amount of about 10 minutes of speech were analyzed and the measured syllables were about 3000.

6. Results

6.1. Simple utterances

In order to evaluate the degree of accuracy in the textual imitation of model utterances, the 10 Italian L2 teachers had to indicate for each imitation of Senegalese learners if it was unclear, partial or complete. When it was complete, they also had to specify if the imitation was correct in terms of morpho-syntactic structures and pronunciation.

As we can see in Figure 2, in the case of simple utterances all the subjects were always able to produce an imitation. However, some differences can be detected in the productions of the two groups of learners. The imitations provided by French school learners were more accurate (a higher % of complete imitation) if compared to the Koranic school learners' productions. In the first group, moreover, the amount of correct imitations (in the figure incorporated in the complete imitation percentage) corresponds to 32.1% on the total, while in the second group it corresponds to 24.7%. However, even when Koranic school learners were not able to easily imitate the utterances, they produced a partial imitation or a completely unclear utterance.

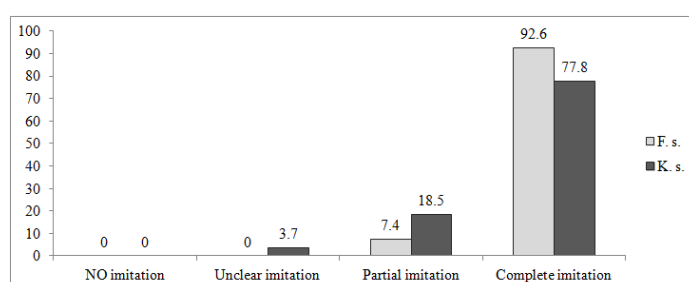


Figure 2: Accuracy evaluation of the textual imitation of simple model utterances. Percentage values on the total number of imitations (F.s. = French school; K.s. = Koranic school)

As regards the type of errors identified by the Italian L2 teachers in the Senegalese imitations (Fig. 3), there seems to be no great difference between the two groups of learners, with the exception related to the segmental pronunciation errors. The higher percentage of occurrence of these errors in the Koranic school learners productions may be due to a lower phonological awareness level in the context of Koranic school education (if compared to the French school).

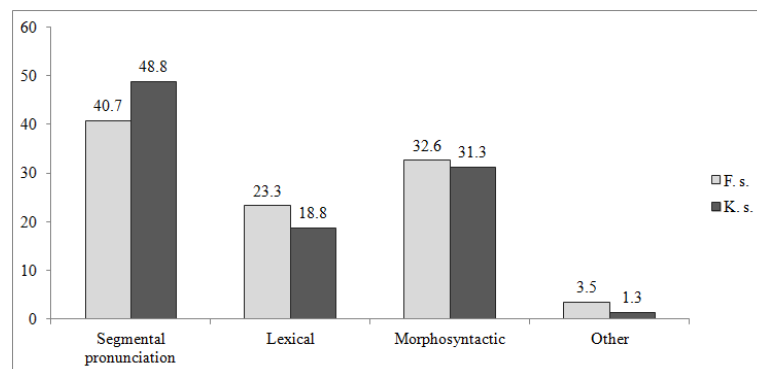


Figure 3: *Type of errors in the imitations of simple model utterances. Percentage values on the total number of imitations (F.s. = French school; K.s. = Koranic school).*

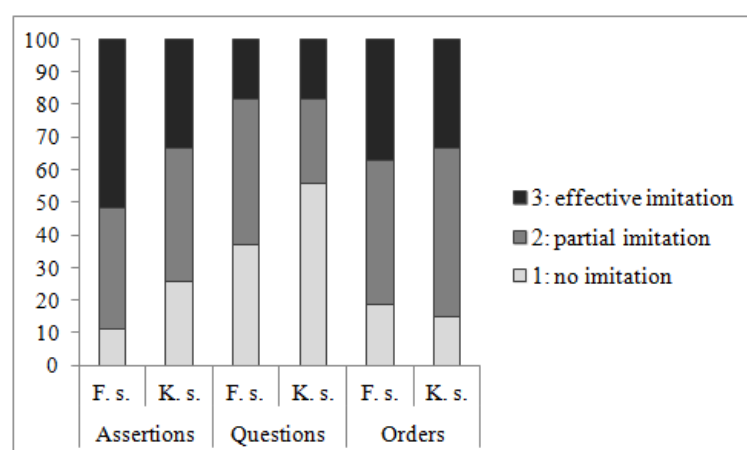


Figure 4: *Evaluation of the effectiveness of the prosodic performance in the imitation of simple model utterances. Percentage values on the total number of imitations (F.s. = French school; K.s. = Koranic school).*

In Figure 5, the intonational contours of models in two simple utterances (an assertion and a question) and the contours resulting from the mean F0 value for each vowel in the imitations of the two groups of learners and in the control group of native speakers of Italian (together with the respective standard deviations) are represented and compared.

It is possible to notice that both in the assertion and in the question, the most accurate imitations were, not surprisingly, those provided by the Italians of the control group, who share the intonational patterns of models.

Senegalese learners from the French school, on the contrary, represented the worst prosodic imitators. In the case of the assertion, they produced a quite flat melodic contour, while in the question, although there was a (late) attempt to reproduce the first intonational peak of the model, this peak is followed by an erroneous falling tone.

Learners from the Koranic school, on the other hand, demonstrated a greater ability to imitate the pitch contour of Italian models. In both utterances they tried to reproduce their intonational peaks, even if in the assertion the tonal range is considerably reduced and in the question the alignment of melodic peaks to the syllables of text seems to be quite problematic.⁸

In the case of orders, the difference between the prosodic performance of the two groups appears less pronounced, since all the learners, independently from their educational background, have more easily imitated the intonational contour of the model utterances.

Hence, if the results of the spectroacoustic analysis confirm the difficulties for both groups of learners in reproducing the Italian prosody of questions, they also show, in contrast to the L2 teachers' perception (Fig. 4), a quite marked difference between the prosodic competence developed by the French school learners and that of the Koranic school learners, especially as regards the imitation of assertions and questions.

6.2. Complex utterances

In the case of long (11 to 20 syllables) and very complex model utterances, all the learners found the imitation task difficult to perform because of their basic competence in L2 Italian and for the reduced effect of short-term memory.

According to the perceptual analysis on accuracy (Fig. 6), the French school learners did not want to imitate those utterances that were difficult to understand or to remember. The Koranic school learners, on the contrary, instead of failing to provide any imitation at all, preferred to produce completely unclear imitations or partial ones.

As regards complex model utterances, although learners from the French school presented a higher percentage of complete imitations compared to those from the Koranic school, both groups did not produce correct imitations and most of the productions from the learners were labeled by the teachers as "partial imitations".

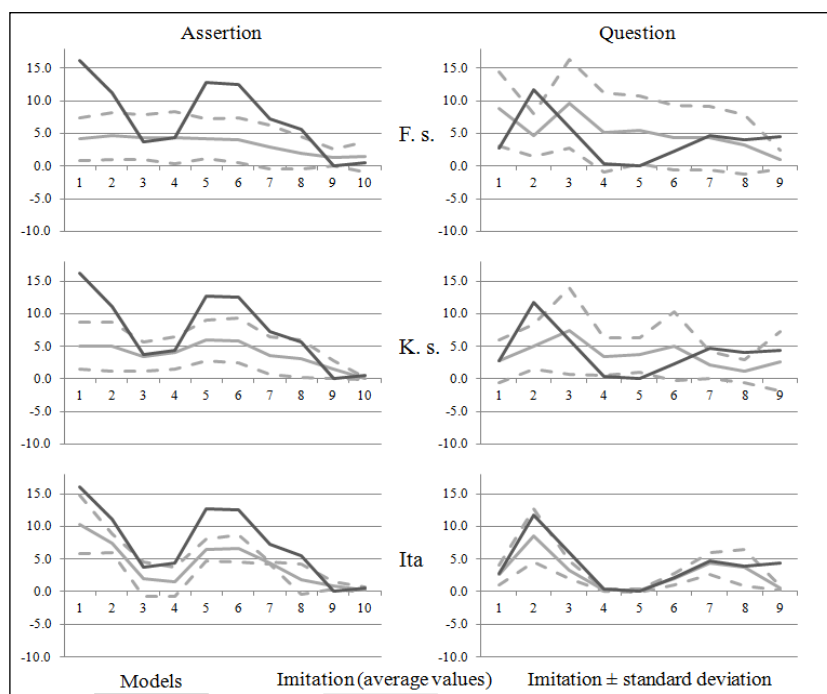


Figure 5: *Intonational contours in the model utterances and in the imitations provided by the two groups of learners and the control group (average values $\pm$ standard deviation) in an assertion and a question (“Parlo italiano”, “Gli sposi sono già arrivati?”).*

An increase of lexical errors was observed by the Italian L2 teachers in both groups of learners (Fig. 7) with respect to the percentages identified in the imitations of simple utterances. This is probably due to the presence in the complex model utterances of a very difficult and unusual vocabulary. On the contrary, the percentage of perceived segmental pronunciation errors undergoes a decrease in the case of complex utterances (more attention being given by the raters to lexicon rather than to phonetics), while the values corresponding to the morpho-syntactic errors are quite stable in the two different sets of imitations.

The orthographic transcriptions provided by the Italian L2 teachers clarify that the label “partial” given to most of the imitations of complex utterances does not have the same meaning in relation to the two groups of learners.

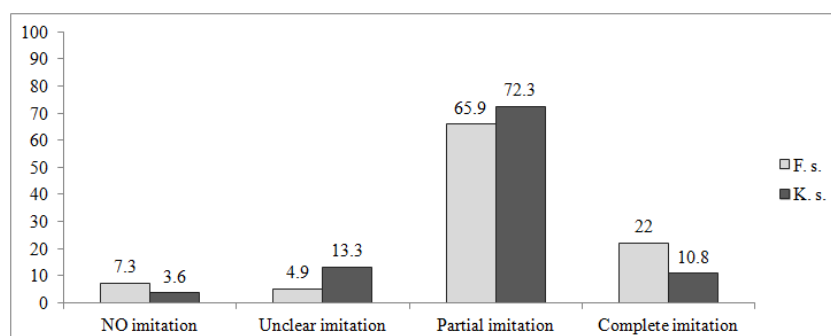


Figure 6: *Accuracy evaluation of the textual imitation of complex model utterances. Percentage values on the total number of imitations (F.s. = French school; K.s. = Koranic school).*

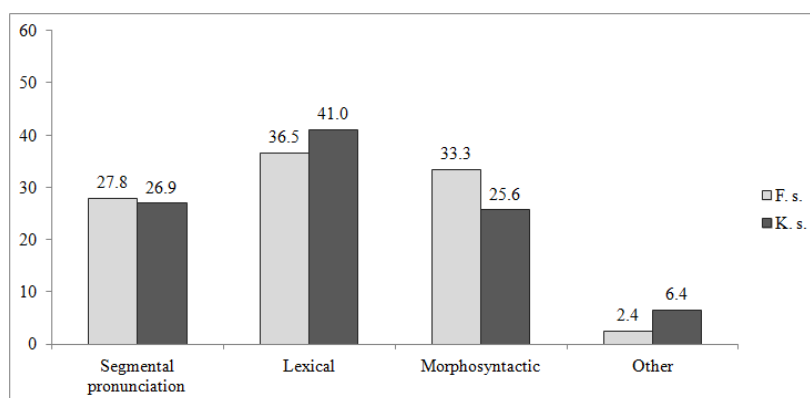


Figure 7: *Type of errors in the imitations of complex model utterances. Percentage values on the total number of imitations (F.s. = French school; K.s. = Koranic school).*

The French school learners used a range of strategies to cope with very long and complex utterances. In some cases they interrupted the imitation after the first 3-4 syllables, while in other cases they “filled” the sentences with very long silent pauses or repetitions. Finally, in other cases they also substituted the unknown words with more familiar ones.

Some examples of imitations provided by the French school learners are reported:⁹

Model utterance	<i>Te lo ripeto: non devi usare il pedale delle frizione!</i>
Imitation (speaker 4)	<i>Te lo ripeto non usare mai ... le pelale della ...</i>
Model utterance	<i>Somministri le compresse esclusivamente al dosaggio indicato</i>
Imitation (speaker 1)	<i>Siministri complimento ... clusivamente xxx disagio.</i>

The Koranic school learners, instead, had a completely different approach to the imitation task as they produced utterances with a peculiar structure as indicated below:

- at the beginning and at the end of the utterances they succeeded in imitating the model utterances from the textual point of view;
- in the central portion they interrupted the textual imitation, filling the gap with a sequence of not understandable sounds we will henceforth call *mumbling*.

Two examples of imitations by Koranic school learners are reported below:

Model utterance	<i>Fossi in te, non avrei la presunzione di essere impeccabile</i>
Imitation (speaker 15)	<i>Fossi in te xxx xxx xxx xxx cabile</i>
Model utterance	<i>Perché usi ancora il cucchiaino di plastica?</i>
Imitation (speaker 18)	<i>Perché usare xxx di plastica?</i>

The spectroacoustic analysis carried out on the *mumbling* instances has shown that these central portions in the imitations produced by Koranic school learners do not correspond to filled pauses or to continuous sounds (such as vocalizations). They are rather sequences of simple syllables (with a CV structure), composed of a plosive or a nasal sound and a centralized vowel (Fig. 8).¹⁰

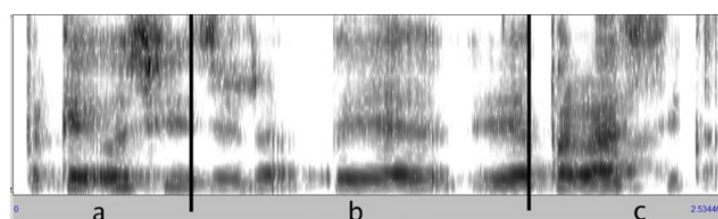


Figure 8: *Beginning, mumbling and end in the imitation of the question “Perché usi ancora il cucchiaino di plastica?” produced by a Koranic school learner.*

Throughout the particular syllabic structure of *mumbling* (which can be defined as hypo-articulated), learners were able to reproduce the rhythmical pattern of

the model utterance, independently from the textual imitation. It is necessary to add that the intonational analysis showed a very flat contour in the case of *mumbling* and in all the three considered speech acts.

As in the case of simple utterances, also in the imitations of complex model utterances the prosodic evaluation provided by the Italian L2 teachers (Fig. 9) neither seem to mirror the very different behaviors of the two groups of learners nor the results obtained by means of the spectroacoustic analysis of *mumbling*.

What can be noticed, however, is that French school learners' imitations were more often rated as "partial prosodic imitations" while in the evaluation of the Koranic school learners' productions teachers opted either for a very positive judgment or (more often) for a very negative one.

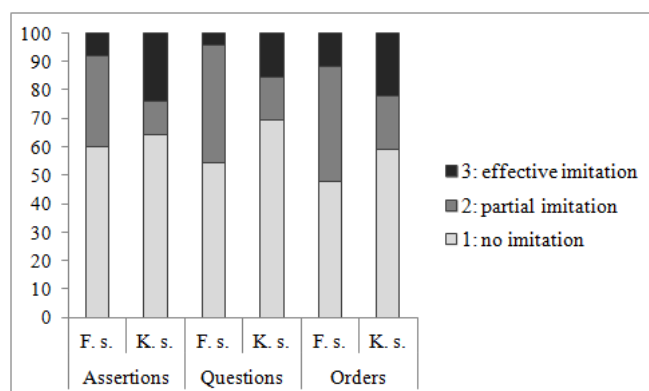


Figure 9: Evaluation of the effectiveness of the prosodic performance in the imitation of complex model utterances. Percentage values on the total number of imitations (F.s. = French school; K.s. = Koranic school).

7. Discussion and conclusions

In order to evaluate the oral skills and in particular the prosodic competence developed in L2 Italian by low-literate Senegalese learners with very different educational backgrounds in the home country, a corpus of imitations was collected and exposed to two different analytical approaches: a perceptual analysis and a spectroacoustic analysis.

Results seem to indicate that a relationship exists between the model of literacy in the L1 and the development of oral skills in the L2. The imitations provided by French school learners (both of simple and complex model utterances) were characterized by a higher level of accuracy from the textual point of view if compared to the productions of the Koranic school learners. This

is probably due to superior analytic skills that are developed in the context of French school education. A more detailed analysis of the orthographic transcriptions provided by the Italian L2 teachers could yield further information about the specific morpho-syntactic and lexical aspects of utterances produced by learners of the two groups.

Notes

- 1 For a detailed report on education, languages and society in Senegal see Cisse (2005).
- 2 It is possible to consult the UNESCO *eAtlas of Literacy* at the following address: <http://tellmaps.com/uis/literacy/>.
- 3 The reported data are available at the website www.istat.it.
- 4 Data from the *Scuola di Pace* archive.
- 5 For further information about the literacy policy and the evaluation criteria adopted by OECD, it is possible to visit the website <http://www.oecd.org/edu/innovation-education/adultliteracy.htm>.
- 6 The EI task has been considered one of the most effective methods to assess oral proficiency both in L1 and L2. For further in-depth analyses on the working principle and the methods of construction of this kind of task, see Bley-Vroman & Chaudron (1994), Christensen et al. (2010), Erlam (2006). Henning (1983).
- 7 These observations are based on the direct experience of the authors in the field of (second) language teacher training and in L2 Italian teaching. Moreover, it is worth mentioning that the prosodic aspects of L2 Italian have only recently aroused the interest of the academic community and the authors of this paper belong to one of the main research groups that are presently investigating this topic (see De Meo 2012; De Meo & Pettorino 2011; 2012; Pellegrino 2012).
- 8 Further observations on the possibility of prosodic transfer from Wolof can be found in Maffia, in press.
- 9 In the transcriptions, the three dots (...) indicate a silent pause and the xxx the presence of not understandable sounds. Different speakers are identified by the corresponding numbers in Table 1.
- 10 For a more detailed phonetic and prosodic analysis of the mumbling phenomena, see Maffia, Pettorino & De Meo, in press.

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BRIDGING THE GAP IN THE LESLLA CLASSROOM: A LOOK AT SCAFFOLDING

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Abstract

This paper addresses the use of scaffolding in the LESLLA classroom. LESLLA learners, having had no or little schooling experience need to adapt to learning in a school situation. This means, as Simpson noted (2007), that cognitive and other learning strategies for learners with a small frame of reference must be explicitly developed. The teacher in her pedagogy plays a pivotal role in guiding the student in this learning process. This requires an understanding of the task to be completed, as well as knowledge of strategies to complete the task. She bridges the gap between student and the skill to be learned. The use of scaffolding stands central in this process. This paper illustrates how effective and less effective scaffolding in the LESLLA classroom can influence the learner's learning process.

Keywords: Scaffolding, L2 oral skills, feedback, L2 classroom

1. Scaffolding

Scaffolding is a term used to describe the didactic process in the classroom that is applied to guide the student in completing a task that alone would have been too difficult for him. Scaffolding can encompass various strategies. It can be a verbal communication through the use of questions, giving of information, prompts, feedback, or modelling as well as a nonverbal communication through the use of visuals such as realia, pictures, maps, or films. Scaffolding gives structure and an accessible ladder to learning. The term scaffolding was probably introduced by Bruner (1975) in his studies on child language development and child-parent interactions. He states:

... mothers most often see their role as supporting the child in achieving an intended outcome, entering only to assist or reciprocate or 'scaffold' the action. 'Scaffolding' refers to the mother's effort to limit, so to speak, those

degrees of freedom in the task that the child is not able to control. (Bruner 1975: 12)

Important in the process of scaffolding is the aspect of the learner being able to achieve a goal that would have been beyond his capabilities without proper assistance of scaffolding (Wood, Bruner, & Ross 1976: 90). This concept of scaffolding coincides with the framework put forth by the Russian psychologist Lev Vygotsky (1896-1934) through his construct of the Zone of Proximal Development (ZPD). Although the term scaffolding was not applied by Vygotsky, his influence is clearly evident in Bruner's excogitation on learning.¹ In a co-authored article (Wood et al. 1976: 90) he states that:

This scaffolding consists essentially of the adult 'controlling' those elements of the task that are initially beyond the learner's capacity, thus permitting him to concentrate upon and complete only those elements that are within his range of competence. The task thus proceeds to a successful conclusion.

Vygotsky (1978: 86) expounds on this very same process as follows:

It [the zone of proximal development] is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.

It is within this ZPD assistance that learning takes place. A learner with a large ZPD needs a greater amount of assistance to complete a task than a learner with narrower zone. In the latter the learner can perform the task with less help and perhaps achieve a higher level of learning in a shorter time span.

2. Instructional scaffolding in L2 learning

Scaffolding in educational settings has been termed as instructional or educational scaffolding. The characteristics are the same as for scaffolding in non-educational settings with the limitation that in an educational setting the focus is more on the cognitive skills and can take place during specific cognitive activities as well as during classroom interaction. Through scaffolding, the teacher focuses the student's attention to a specific aspect of learning—be it a

grammatical error or a miscommunication in discourse. Through the use of scaffolding the teacher nudges the learner to improve his L2 output so that he will take “communicative risks” (Kurtz 2011: 151).

Scaffolding is a dynamic process strongly dependent on the teacher’s ability, the student’s response (the interaction between the two) and the task type. The type of scaffolding given is thus an interdependent strategy and can be expressed in various ways depending on the particular task and student ability. The amount of scaffolding can be increased or decreased according to the need of the learner (Donato 1994: 41). Scaffolding is thus a temporary support applied where necessary and phased out when the task has been completed (Van de Pol, Volman, & Beishuizen 2010). Three characteristics are crucial to scaffolding, making it a cyclical process in learning development: contingency, fading, and transfer of responsibility (Van de Pol et al. 2010: 274-6). Contingency means that the amount of guidance the teacher gives is dependent on the learning level of the student. The teacher must estimate the minimum amount of support that is needed for the student to complete the task successfully (Aljaafreh, & Lantolf 1994: 468). Fading is the gradual withdrawal of the support over time, also referred to as the “gradual release of responsibility”.² The rate of withdrawal is dependent on the level of development and competence of the student. The final step in the scaffolding cycle is the transfer of responsibility to the student. As the student shows ability to perform the task on his own without assistance, the scaffolding is removed. Vygotsky explains this cyclical process as follows, “what is the zone of proximal development today will be the actual development level tomorrow—that is, what a child can do with assistance today she will be able to do by herself tomorrow” (Vygotsky 197: 87). Van de Pol et al. explain that all three of these key characteristics must be present in order for the strategy to be termed as true scaffolding. The great diversity of variables and the interpretations on what constitutes scaffolding makes it difficult to form a coherent definition and means of measuring on which there is a consensus. Consequently, effectiveness of scaffolding has been difficult to investigate. Nevertheless, particularly in metacognitive and cognitive activities, scaffolding seems to be effective (Van de Pol et al. 2010: 286).

The concept of scaffolding as seen through the use of negotiation, repair-solicits, and yes/no questions as a means to guide the student to self-repair during interaction was probably introduced in L2 learning through conversation analysis by Hatch in 1978 (Chaudron 1988: 10). In conversation analysis, interaction as a social event stands central and scaffolding is mainly directed towards accomplishing a reciprocal understanding of the topic being communicated. If the message being communicated is understood, then faulty linguistic features are largely disregarded.

Of central importance in scaffolding is the use of oral feedback, for it can function as a regulator of learner responses (Aljaafreh, & Lantolf 1994). Aljaafreh and Lantolf assert that the feedback given during scaffolding “is as important an index of development in a second language as are the actual linguistic forms produced by the learner” (Aljaafreh, & Lantolf 1994: 467). Van Lier (1988: 211) stresses that feedback should move to draw out self-repair which, in turn, would enhance development in learning. As Aljaafreh and Lantolf (1994: 480) conclude, “The very goal of interaction in the ZPD, as formalized in Vygotsky’s law of cultural development, is for novices to appropriate the responsibility for their own linguistic performance”. In the following section a closer look is taken at the role of oral feedback as part of scaffolding in the LESLLA classroom.

3. Scaffolding in the LESLLA classroom

Scaffolding occurs in all forms of teaching, also in the LESLLA classroom. Perhaps it is there that scaffolding is of particular importance as a pedagogical technique. LESLLA learners have had little or no schooling experience and the need for structured learning is especially acute. The classes are characterized by a large variation in student ability. Instruction must cater to this ability. In this paper various ways of instructional scaffolding in LESLLA classrooms are illustrated by looking at oral feedback given by the teacher. As said above, three characteristics stand central to scaffolding: contingency, fading, and transfer of responsibility. Two of these (contingency and fading) will not be discussed. From unconnected examples, as those presented, it is not possible to discern if the scaffolding is contingent to the learning level of the student and if the given scaffolding will disappear gradually over time. For this, more information is needed over the students’ learning levels and classroom pedagogy. A closer look will thus be taken at the third characteristic: the transferring of responsibility. As Aljaafreh and Lantolf (1994: 480) claim, learners must eventually take responsibility for their own linguistic performance. By correcting the error expressed in the given teacher’s feedback, the student is taking a step towards taking responsibility for his learning; he is not waiting for the problem to be resolved by someone else.

The examples in this paper are taken from a study executed in the Netherlands in LESLLA classrooms (Strube 2014). For that study six classes with a total of 68 students were observed over a period of eight months during the practice of the oral skills. Each class was observed on average eight times totaling to 86.5 classroom hours. For the observations three schemes were developed. One focused on classroom instructional organization and hours

spent on various components such as content focus (e.g., vocabulary and dialog practice), participant interaction (e.g., teacher and student talk), participant organization (e.g., group work or whole class), and how often certain materials were used. The second observation scheme focused on classroom interaction (types of questions asked, responses given, and types of feedback given). The third scheme focused on correctional feedback (the trigger for the given feedback, type of feedback, and the student response to that feedback). From these observations several types of corrective feedback used in these LESLLA classrooms surfaced. This paper focuses on negotiation, recasts, and elicitation. There are four reasons underlying this choice. First, a great number of studies have proven that recasts are the most frequent type of corrective feedback given and the results in the Strube study substantiate this. Secondly, negotiation is regarded as a facilitator for L2 acquisition (Long 1996), but its use in this study is minimal. Thirdly, recasts and negotiation are intertwined, particularly in the function of confirmation. Fourthly, the use of elicitation in this current study has produced favourable results.

A closer look at the characteristics and use of these three types of feedback are necessary in order to explain their effectiveness as a scaffolding technique. Example 1 illustrates the basic differences between negotiation, recast, and elicitation, indicated by the teacher's response in italics.

Example 1: *Three types of oral feedback*

	1a. Negotiation	1b. Recast	1c. Elicitation
Student:	I have two box.	I have two box.	I have two box.
Teacher:	<i>I have two box?</i>	<i>I have two boxes.</i>	<i>Try again. I have ...</i>
Student:	Two boxes.	Two boxes.	boxes.
Teacher:	Yes. That's right.	Yes. That's right.	Yes. That's right.

Example 1a illustrates negotiation in the form of a confirmation check. The teacher repeats the response with a rising intonation as if saying "did I hear ...?" This question can be interpreted on two levels: as a request for confirmation or as a request for correction. As a request for confirmation the student can either respond affirmatively, "yes you heard correctly", or negatively "no, I said ...". On the other hand, the teacher's question can be interpreted as a sign that the student's utterance contains an error and needs revision. In such a case, the student can revise his utterance. The student in Example 1a corrected his utterance; apparently he interpreted the teacher's feedback as a sign that his initial utterance contained an error. The susceptibility of negotiation to more

than one interpretation adds to the ambiguity of negotiation as a form of corrective feedback.

Example 1b shows a recast. In a recast the teacher repeats the student's response, but without the error. A recast is, just as a negotiation, also susceptible to interpretation: as a confirmation of the student's response or as a correction. In Example 1b, the student repeated the teacher's correction. Such a repetition might mean that this student understood the teacher's recast, and he repeated the correction or the student did not perceive the correction and just echoed the teacher's words. Later in this article I will return to this complication of multiple interpretations.

Example 1c illustrates an elicitation. The teacher starts by inviting the student to try again—a signal that his response is faulty. The teacher then elicits a correct response by repeating the response up to the point of the error. The intonation of her voice signals the student to complete the response correcting his error. The student in Example 1c understood the purpose of the elicitation and made the necessary correction.

In the Strube study these three forms of feedback are compared (along with explicit correction and metalinguistic feedback) on the focus of the feedback and the student uptake. The results are presented in Table 1. First it is necessary to clarify what student uptake entails. There are three types of student uptake: repair, needs-repair, and no-repair. A repair is the student response to a feedback in which he corrects his error. This is taken as an indication of having noticed, but not necessarily of having understood, the teacher's feedback. In a needs-repair (also referred to partial repair) the error is partially corrected. In a no-repair no correction is made. Student uptake is illustrated in Example 2, with the repairs marked in italics.

Example 2: *Three types of student uptake*

	Repair	Needs repair	No repair
Teacher:	Where is the spoon?	Where is the spoon?	Where is the spoon?
Student:	The spoon is by the plate.	Uh, behind the plate.	Spoon? Oh good for rice.
Teacher:	Next to the plate.	No, next to the plate.	Yes, you eat rice with a spoon.
Student:	<i>Oh yes, next to the plate.</i>	<i>Oh yes, next plate.</i>	

As Table 1 indicates, the use of a recast was by far the most prevalent form of all the five feedbacks, 59%. Most of these feedbacks focused mainly on grammar, with a mean of 58%. Only negotiation focused for the largest part on language use (getting the message across) with an occurrence of 89%. Student responses

on a feedback were largely characterized as having no-repair, a mean of 42%. Elicitation stands out with 44% repairs and 22% no-repairs. In contrast, for 59% of the recasts there was no-repair. These results are in line with Tarone, Bigelow, and Hansen's (2009) experimental study on the role of L1 literacy in processing the oral L2. In that study, uptake³ of a recast was less successful by the low-literates than the moderate literates. Particularly striking in the Strube study is the low percentage of elicitations, only 9%. In order to understand these results it is necessary to take a closer look at the use of feedback in the classroom.

Table 1: *Distribution corrective feedback types across error focus and student uptake (Strube 2014)*

(N=483)	Explicit correction	Meta- linguistic feedback	Negotiation	Recast	Elicitation
Total	51 (11%)	19 (4%)	81 (17%)	287 (59%)	45 (9%)
<i>Feedback focus</i>					
Phonology	5 (10%)	0	0	24 (8%)	1 (2%)
Lexicon	16 (31%)	1 (5%)	0	28 (10%)	15 (33%)
Grammar	26 (51%)	18 (95%)	9 (11%)	227 (79%)	25 (56%)
Language use	4 (8%)	0	72 (89%)	8 (3%)	4 (9%)
<i>Student uptake</i>					
Repair	17 (33%)	3 (16%)	22 (27%)	54 (19%)	20 (44%)
Needs-repair	12 (24%)	8 (42%)	25 (31%)	63 (22%)	15 (33%)
No-repair	22 (43%)	8 (42%)	4 (42%)	170 (59%)	10 (22%)

Example 3 illustrates a feedback focusing on meaning. As explained above for Example 1a and 1b, both recast and negotiation are susceptible to more than one interpretation. They can be interpreted as a confirmation, correction, or even an echo of the student's words. In Example 3 the student is telling about her visit to the hospital. Both pieces of the teacher's feedback are focused on the meaning the student is trying to convey. In other words, the teacher, by recapitulating the words of the student (arrows), is trying to understand the student's message. This can be interpreted as a negotiation by use of confirmation ("do you mean ..."). At the same time the recapitulation is also a correction of the faulty utterance of the student ("you should say"). In that case, the feedbacks are recasts.

Example 3: *Feedback focusing on meaning (language use)*

Student:	<i>Samen ander familie. Vier vrouw, ik samen vijf vrouw. Kijken. Een vrouw ziekenhuis. Amsterdam.</i>	Together other family. Four woman, me together five woman. Looking. One woman hospital. Amsterdam.
>Teacher:	<i>Oké, jullie zijn op bezoek geweest.</i>	Okay, you've been visiting.
Student:	<i>Ja, op bezoek. Is terug avond. Acht uur huis.</i>	Yes, visiting. Is back evening. Eight o'clock at home.
>Teacher:	<i>Je was 's avonds om acht uur weer terug.</i>	You were at eight o'clock in the evening back again.
Student:	<i>Ja.</i>	Yes.

Example 4 took place during the weekly recurring "weekend story." Here the student tells about a biking experience. In this fragment the teacher responds to the student in two ways. First she recasts the student's utterance about her flat tire. As the student does not know the word for flat tire, the teacher recasts his sentence using the correct word (first arrow). The following two arrows point to negotiations of content. In this type of negotiation the focus is not on the clarity of meaning or correctness of form, but on the topic of the interaction. It is not a matter of misunderstanding, for the message is understood, but the teacher wishes more clarity or information on the subject (Van den Branden 1997). To keep the conversation going, the teacher poses real questions. In such a way she also forces the student to use more words than just 'yes' or 'no' in her answer.

Example 4: *Negotiation of form and meaning*

Student:	<i>Gisteren ik uh ik fietsen tot over de grote brug hier. Mijn band sss.</i>	Yesterday I uh bike up to the big bridge here. My tire sss.
>Teacher:	<i>Je band was lek.</i>	Your tire was flat.
Student:	<i>Ja.</i>	Yes.
>Teacher:	<i>En toen?</i>	And then?
Student:	<i>Toen ik lopen met de fiets zo naar huis. Ik haal mensen help mij fiets maken.</i>	Then I walked home with the bike. I get people to help me fix my bike.
>Teacher:	<i>Ben je zelf naar de fietsenmaker geweest of heeft iemand jouw fiets gemaakt?</i>	Did you go to the bicycle repair shop or did someone repair your bike?
Student:	<i>Ik heb uh vraag voor mijn buurman.</i>	I uh asked my neighbour.

Example 5 shows a recast during a form-focused task. The most prominent feature in this example is its clear focus. The students are engaged in a task focusing on forming verbs in the present tense. To elicit a simple sentence using the present tense, simple pictures depicting a singular activity were used. Errors in word choice, form, and pronunciation could occur. In this example, the student made an error in pronunciation. The teacher recasts the verb, which the student immediately perceives.

Example 5: *Recast*

Student:	<i>De jongen slijt ...</i> (pronunciation error)	The boy slips ...
Teacher:	<i>Snijdt.</i>	Snips.
Student:	<i>Snijdt.</i>	Snips.

In Example 6 the focus is also clear. Here the teacher uses the elicitation technique (arrows) to get the student to reformulate his erroneous utterance. The teacher first instructs the student to form a complete sentence. The student's response contains an incorrect verb form. The teacher then tries to elicit a correct response by starting the sentence anew up to the point of the error. In this way she signals that the constructed sentence is incorrect and requests the student to correct it.

Example 6: *Elicitation*

Teacher:	<i>Wat heeft Berta?</i>	What does Berta have?
Student:	<i>Uh een doos.</i>	Uh a box.
>Teacher:	<i>Ja, maar de hele zin maken.</i>	Yes, but make a complete
	<i>Berta ...</i>	sentence. Berta ...
Student:	<i>Berta heb een doos.</i>	Berta have a box.
>Teacher:	<i>Berta ...</i>	Berta ...
Student:	<i>Heb een doos.</i>	Have box.
Teacher:	<i>Berta heb een doos, is dat goed?</i>	Berta have a box, is that correct?
Student:	<i>Nee.</i>	No.
>Teacher:	<i>Berta ...</i>	Berta ...
Student:	<i>Heb ik ...</i>	Have I ...
Teacher:	<i>Heeft, Berta heeft een doos.</i>	Has, Berta has a box.

Twice the teacher gave the student the opportunity to correct his error, nevertheless, she was unsuccessful. At the end the teacher resolves to give the correct response.

An elicitation must be carefully constructed. An inept elicitation can result in misunderstanding of the teacher's intent. Example 7 is such an inept elicitation.

Example 7: *Inept elicitation*

Teacher:	<i>Wie is zij?</i>	Who is she?
Student:	<i>Zij Mimount.</i>	She Mimount.
>Teacher:	<i>Zij is ...</i>	She is ...
Student:	<i>Mimount.</i>	Mimount.
>Teacher:	<i>Zij is ...</i>	She is ...
Student:	<i>Mimount.</i>	Mimount.
Teacher:	<i>Ja, zij is Mimount.</i>	Right, she is Mimount.

In this lesson the teacher was focusing on the use of the copula *zijn* (to be) with the name of a student. In Example 7 the student fails to use the copula in her answer to the teacher's question. Twice the teacher uses the elicitation technique to extract the correct response, but both times she overshoots her goal by including the copula in her elicitation. In other words, the teacher's elicitation includes the correction instead of drawing it out. The student is probably unaware of the purpose of the exercise. In fact, she has responded adequately and correctly to both elicitations. The teacher, not having made her intention clear to the student, finally provides the required response without any further explanation.

4. Feedback and scaffolding

In the previous section, three types of feedback (negotiation, recast, and elicitation) were illustrated and their positive and negative effects on learning explained. In the following section, the feature of scaffolding as seen through the use of these three feedbacks is discussed. Here the characteristic of transferring of responsibility as expressed by Aljaafreh and Lantolf stands central.

Negotiation is used as a technique to resolve a communication impasse. Such moves are regarded as valuable instruments in language learning (Long 1996). By negotiating the teacher scaffolds the discourse towards achieving a better understanding of the topic by asking the student for clarification or by checking her own understanding of the student's message. In both instances it is the

student who is given the opportunity to respond and take responsibility. In this study, a mean of 17% of all the oral feedback given by the teacher were negotiations (Table 1). Most of the negotiations focused on language use, 89%, as illustrated by Example 3. The remaining 11% focused on grammar. The difficulty with negotiation, as used by the teacher in Example 3, is its susceptibility to interpretation by the student. As Example 3 shows, the feedback can be interpreted as a confirmation of the student's message, but also as a recast of her faulty utterance. In Example 3 the student only responds to the feedback with a vague 'yes'. This does not necessarily mean that the student understood the correction. It could just be a sign showing attentiveness or to feign understanding (Van den Branden 1997: 591). Particularly if the learner's L2 skill is still at a beginning level, a very minimal response such as 'yes' can be given "so as not to appear rude" (Gass 1997: 30). The repetition of the expression *op bezoek* probably is an echo of the teacher's words. The teacher makes no attempt to scaffold the student into forming a more comprehensible story. The teacher's reformulations might even encourage the student into believing that her language is acceptable. The current study shows that 42% of the negotiations resulted in no-repair. This indicates that scaffolding by means of negotiation is, at this level of learning, not always successful.

Negotiation of content presents another approach. Example 4 shows how the teacher scaffolds the learner by participating in the discourse. She asks real questions pushing the student to respond with more than a simple affirmative. The student is thus motivated to try harder in his language output, in other words to take a "communicative risk" (Kurtz 201: 151).

A recast is, just as a negotiation, also susceptible to interpretation. A recast can be used on several levels: to correct an error, to confirm a student's utterance, or as a teacher echo. Which of these the teacher intended is not always the same as perceived by the student. Example 3 illustrates such multi-interpretable recasts. In both of these examples the teacher could be recasting, confirming, or echoing. The focus and saliency of the recast are significant for the uptake. If the student's attention is focused on a single linguistic feature, as in Example 5, the purpose of the recast is clear. In other words, the student knows what to expect in terms of correction. This increases the possibility of a repair to take place. This result explains why more repairs take place for lexical or pronunciation errors than for grammar or language use. Table 2 gives the results for uptake and error type. Table 2 shows that 53% of the errors for pronunciation and 40% of those for lexicon are repaired, while those for grammar and language use are much lower, respectively 18% and 24%.

Table 2: *Distribution of error type over uptake*

(N=483)	Phonology (n=30)	Lexicon (n=60)	Grammar (n=305)	Language use (n=88)
Repair	16 (53%)	24 (40%)	55 (18%)	21 (24%)
Needs-repair	5 (17%)	15 (25%)	78 (26%)	25 (28%)
No repair	8 (30%)	21 (35%)	172 (56%)	42 (48%)

During classroom interaction, the student's attention is on conveying meaning. Corrections are often not noticed or not understood. They come, as it were, unannounced. The student is not only unprepared, he is often unaware of the relationship between his erroneous utterance and the teacher's recast, as in Example 3. The student does not always hear the correction made, particularly if it involves a linguistic feature such as a form of plurality or a verb tense. Research has shown that LESLLA students have difficulty reflecting on such formal linguistic features, which makes an oral repair on grammatical errors all the more difficult (Kurvers 2002). As Table 1 reveals, recasts were the most frequent type of feedback (59%). Of these 79% focused on grammatical errors of which 56% were not repaired. As with negotiation, it is questionable if recasts are a constructive form of scaffolding.

An elicitation technique is used as a prompt to draw out a response from the student. The teacher guides the student to reformulate his faulty utterance by modelling the onset of the response up to the point of the error. The student is, as it were, invited to complete the response correcting the error. In other words, the teacher scaffolds the student in completing the task. In the use of an elicitation, two essential features co-occur: noticing and wait-time. First, by directing the student's attention to the error, the teacher makes sure that the student notices the error. Understanding and learning can only take place if the learner notices his error (Schmidt 1990). Secondly, the technique of word lengthening in the elicitation inserts wait-time. This gives the student time to think. Examples 6 and 7 illustrate a successful and an unsuccessful elicitation. In Example 6, even though the teacher is not successful in getting the student to correct his error, the student is aware that the error concerns the verb form. The teacher also gives him extra time to reflect on his error by asking if his response is correct. Most probably the student confuses the first person (*heb*) and the third person (*heeft*) forms. In the end the teacher realizes that her elicitations are to no avail, and she decides to give the correct response. In contrast, Example 7 illustrates an elicitation technique that is incorrectly applied. In Example 7, the teacher does not elicit the response required, the copula. Instead of modelling up to the point of the error, she models the error as well. As a result, the feedback is

not focused and as a result the student is not aware of his error. In this example, the feedback does not scaffold the student into correcting his error, as he is not aware of the fact that an error had been made.

5. Conclusions and discussion

This paper addressed the use of scaffolding in the LESLLA classroom by looking at three types of oral feedback: negotiation, recast, and elicitation. As LESLLA learners have had little schooling experience, they must learn to focus on and be made aware of their learning process. In this process, the teacher plays a central role. Her choice of feedback and her manner of expressing it determines her success in forming a scaffold in learning. The examples have shown the advantages and disadvantages of each type of feedback as a form of scaffolding. Except for negotiation of content, both negotiation (of form and meaning) and recast, due to their ambiguity in purpose, do not give the needed support essential for learning and are thus a less desirable form of scaffolding. In negotiation of content there is real communication between teacher and student. Through her questions the teacher pushes the student to respond more fully. In this way she scaffolds the student to go a step further than he might have done if the teacher had not provided scaffolding. Elicitations, if used correctly, allow for self-repair. From self-repair the student becomes aware of his learning. In turn, it is a step towards taking responsibility for his learning. As taking responsibility in learning is a key objective of scaffolding, this makes the elicitation technique a useful tool.

The three-step dialog practice is an example of using scaffolding in the classroom where the responsibility of learning is gradually transferred to the student. In the first step of this type of dialog practice, the teacher explains the dialog and the roles of the protagonists by telling its purpose and how it is achieved. In the second step, the teacher takes one role and the students in chorus or in small groups take up the other role. Another way is for the teacher to transfer her role to one half of the class and let the other half play the other role. This is a safe way for the students to practice the roles getting used to the language involved. Finally, the students perform the dialog before the class as individuals. In her feedback, the teacher also scaffolds the students by first paying attention to language (idiom) bound by the dialog. Then she expands the use of that idiom in real situations outside the classroom. The use of elicitation focuses the student on his role and the language in the beginning steps. Negotiation of content is important in the later steps.

The advantages and disadvantages of each type of feedback discussed are summarized as follows, adding to the list negotiation of content:

Negotiation (of form and meaning)

- Ambiguous in purpose (confirmation, correction, echo),
- + Allows self-correction,
- + Responsibility is transferred to the student (if self-correction is allowed).

Negotiation of content

- + Pushes the student to respond by asking real questions,
- + Responsibility is transferred to the student,
- + Clarity in focus.

Recast

- Provides the answer,
- Does not allow self-correction,
- Responsibility not transferred to student,
- Ambiguous in purpose (confirmation, correction, echo).

Elicitation

- + Pushes the student to respond,
- + Allows self-correction,
- + Responsibility is transferred to the student,
- + Clarity in focus.

This paper has just touched upon one of the many aspects of teaching and learning a second language in the LESLLA classroom. For LESLLA learners, being low-literate or non-literate in the L1, learning in a school environment is an exceptional challenge. Clarity in didactics (classroom instruction) is thus essential. By using appropriate strategies the teacher can enhance the student's awareness of his own learning and improve his L2 ability. In this process scaffolding plays an important role.

Notes

- 1 Vygotsky's views on learning became widely known in the west after the first publication of *Thought and Language* in 1962 (Vygotsky 1978). Wood and Bruner's work was definitely in step with the ideas propagated by Vygotsky, but if they were directly influenced by the concept of ZPD is not known. Perhaps it was a matter of convergent learning theories.

- 2 The phrase was brought to my attention by one of the reviewers for this paper.
- 3 In the Tarone, Bigelow, and Hansen study the term "recall" is used for the student response to a feedback. In this paper, the term "uptake" is used in accordance with the Lyster and Ranta (1997) study.

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LESLLA TEACHERS' VIEWS OF THE KNOWLEDGE AND SKILLS THEY NEED: AN INTERNATIONAL STUDY

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Abstract

It is recognized that skilled and knowledgeable teachers are key to facilitating student learning and promoting their success. However, those who teach adult immigrants who have limited education and literacy in their native/home language and are learning the language of their new country as a second or additional language (LESLLA learners) typically have limited to no specific training or professional development that prepares them to work with this population. This article reports on the work of the EU-SPEAK 2 project, which conducted two surveys of teachers and program managers in European countries and North America, to determine the knowledge, skills, and attitudes that they believe they have and that they need. Results show that practitioners focus primarily on *skills* they need to teach effectively rather than on research and knowledge that undergird and support those skills. Skills that they indicated they need include: the ability to use specific teaching methods, conversational situations, materials, and instructional approaches to teach oral language skills and to guide learners in the process of developing reading and writing strategies that they can use independently in their daily lives. Desire for better understanding of the principles and the processes that underlie approaches/skills received lower scores.

Keywords: LESLLA learners; teacher knowledge, skills, and attitudes; teacher training and professional development needs; online study circle; curriculum framework

1. Introduction

It has long been recognized that skilled and knowledgeable teachers are key in supporting each student in a classroom so that all students can reach their full potential (Guskey 2000). It has also been understood that specific knowledge

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and skills are required for teaching in primary/elementary school and secondary school and for teaching specific student populations (e.g., gifted students; students with disabilities; deaf and hard of hearing students). This understanding has translated into specific qualifications required for teachers in primary and secondary school programs and, more recently in some countries, college and university programs. However, in the education of adult immigrants who have limited education and literacy in their home language and native country and who are learning the language of their new country as a second or additional language, no such understandings currently exist about specific knowledge and skills needed for teachers to support students in reaching their potential. In most countries, no specific teaching qualifications are required for teachers working with this population of learners (henceforth referred to as “low-educated second language and literacy acquisition by adults, LESLLA”), and little specific teacher training or professional development exists.

By definition, LESLLA learners have received too little education to possess literacy in their first or home language or in any other language. Lack of literacy means that in this arena, these learners are similar to pre-school children, and teachers with primary school teacher training and experience can use at least some of the knowledge and skills they have to teach LESLLA learners. This position is justified by findings from studies revealing important commonalities between adults and children, which indicate that there is no critical period for learning to read (Kurvers & Van de Craats 2008; Pettitt & Tarone 2015; Young-Scholten & Strom 2006). At the same time, LESLLA learners’ minimal linguistic competence in their second language (L2) means that they are similar to other adult L2 learners, and teachers with secondary or college/university teaching experience can use some of their knowledge and skills to teach them. That they can only use *some* of their knowledge and skills indicates a gap. This is a crucial gap. The strong need for specific training and professional development for these teachers is underscored on the one hand by the persistent failure of LESLLA learners observed in education programs around the world to move beyond basic language and literacy in their L2 (e.g., from below level A1 to level B1 of the six-level Common European Framework of Reference/CEFR for languages (Council of Europe 2001; Kurvers & Van de Craats 2008)). This need is underscored on the other hand by LESLLA learners’ accelerated progress when they are taught by qualified teachers (Condelli, Cronen, Bos, Tseng, & Altuna 2010). These trends point to the need for teachers with knowledge and skills specific to teaching adult LESLLA learners.

Primary school training and experience is insufficient, because LESLLA adults learning to read are not like children learning to read for the first time. They are learning to read for the first time in a language that they are also just

starting to learn to speak. Primary school teaching qualifications provide a start toward the knowledge and skills needed, but these qualifications are not sufficient. Likewise, LESLLA learners are not like secondary school or college/university students, and qualifications for teaching and experience in teaching in these contexts are also not sufficient. While LESLLA teachers can certainly benefit if they have knowledge and skills of primary, secondary, and college/university teachers, they need additional knowledge and skills. As a starting point, because LESLLA learners are adults and immigrants, their learning trajectories are subject to variation due to a number of additional factors, most of which do not apply to children or to educated second language learners. Such factors considerably expand the knowledge and skills needed by LESLLA teachers.

Since 2005, LESLLA symposia and proceedings have revealed the many ways in which low-educated adult immigrants develop basic literacy and the creative ways that teachers support them in the face of fluctuating national policies and funding for adult basic skills provision. Training and continued professional development of LESLLA teachers is often fragmented, even when it does exist, and most teachers lack specific teaching qualifications. In some countries, reliance on volunteers in adult education programs can mean that teachers may not even have primary, secondary, or college/university teaching qualifications (see, e.g., Young-Scholten 2012).

The number of non-literate adults around the world is decreasing somewhat (from 862 million illiterate adults, mostly women, in 2000, which is considered a hugely undercounted number) to an estimated 780 million in 2012, according to the UNESCO Institute for Statistics (2014a, b). There are and will continue to be adults who immigrate to post-industrialized countries without being literate. They face dependency on benefits if they cannot develop language and literacy skills beyond basic levels (e.g., Bynner 2001; CEFR Basic User levels A1/A2 of the European Union, Council of Europe 2001; Dustmann & Fabbri 2003). However, before providing recommendations concerning what such specialized training and development should involve, we need consensus on the knowledge and skills that LESLLA-specific teacher qualifications require. We also need to know whether and how teachers are developing these teaching skills, on their own or with professional development and support. In this paper, we report on measures taken to address these two areas. The information gained will provide guidance for developing a curriculum framework for LESLLA teacher training and professional development. The goal is to equip teachers of low-educated adult immigrants with the same high levels of specialized knowledge and skills that primary, secondary, and college/university teachers have. Since immigration of low-educated immigrant adults is supranational, the curriculum

will also be supranational and will take into account local variations in language, orthography, and culture.

2. Methodology

In January 2014, the EU-Speak-2 project, which includes four phases of activity, began work on the Phases 1 and 2. These were completed in August 2014, and are discussed in this article. Phase 3 involves piloting an online professional development module that addresses some of the needs indicated in the survey, and Phase 4 involves developing the outline of an international LESLLA teacher training and development curriculum framework. The project is carried out by European partners at the Universities of Amsterdam; Cologne; Granada; Jyväskylä in Finland; and Newcastle and three U.S. partners: American Institutes for Research and Center for Applied Linguistics (both Washington, DC), and Virginia Commonwealth University (Richmond, Virginia). Phase 1 surveyed the knowledge and skills that teachers of LESLLA learners and managers of programs that serve them believe they have, need, and want to gain in professional development. The survey, which included a combination of multiple choice and open-ended questions, was sent via email using Survey Monkey, and respondents wrote their answers. When this survey was completed, we used the results to compile a comprehensive list of knowledge and skills specific to LESLLA teaching and asked experts in LESLLA education to respond to this list. These respondents were program managers, teacher trainers, activists, and researchers in the same countries as those of the survey respondents as well as countries bordering them. Phase 2 then surveyed teachers, using the same format, about their opportunities to develop LESLLA-relevant knowledge and skills.

One of the recurring themes in the survey responses has been the need to provide materials and information to teachers in their native languages. EU-Speak project partners were regularly reminded that use of English as a professional lingua franca is not always appropriate for LESLLA professionals who are teaching the language and literacy of the country they work in. This has had implications for translation of the survey questions and has ongoing implications for the ways that the online professional development modules (Phases 3 and 4) are delivered and the curriculum is framed.

In the following section, we describe the design and outcomes of each survey.

3. Survey of knowledge and skills of teachers and managers

3.1. Methodology

The starting point for development of the first survey was to review the set of knowledge and skills outlined by the Nordic Adult Literacy Network (Franker & Christensen, 2013), which lists specific competencies required of professional teachers who are teaching initial and functional literacy to adults whose mother tongue is not a Nordic language. The next step was grouping those and other knowledge and skills into five major categories and then producing various drafts until a final set of 30 items was agreed on by the project partners. To get a sense of whether teachers and managers understood the need for these knowledge and skills in the work they were doing, we asked for each question: (1) *Is this important in your work with low-educated adult immigrants?* Respondents used a four-point Likert scale with the descriptors: *Not at all important; Somewhat important; Important; Very important*. To get a sense of whether they wished to gain these knowledge and skills, we asked: (2) *Is this important for your professional development?* Using the same four-point scale, the responses could be: *No, I don't need to learn more about this topic; Yes, I am somewhat interested; I am interested in learning more; I am very interested and eager to learn more*. Respondents were also asked about their position (manager, teacher, manager and teacher) and work status (full-time, part-time, paid, volunteer), their level of education and fields of study, their years of experience working with LESLLA and other learners, their training and professional development for working with adults, and the levels of literacy of the adults they work with. The surveys were then translated into Dutch, Finnish, German, and Spanish and uploaded to an open source survey application, LimeSurvey, which was hosted by the project's Spanish partner, the University of Granada. Potential respondents were made aware of the survey via user lists and networks in each partner's country and in several additional countries (see below). Respondents were LESLLA teachers or program managers. The survey is available at this link: <http://research.ncl.ac.uk/eu-speak/surveysandresults/>

3.2. Results

Respondents

We aimed for 300 responses (50 from each partner country) and received 308 completed surveys, from the partner countries and beyond. Because most potential respondents were made aware of the questionnaire via user lists, we do not have statistics on how many individuals were contacted initially. An

additional 48 individuals began the survey but did not complete it for various reasons, including concluding that the questions were not relevant to them. (We realized during our analysis that our initial questions could have given this impression.)

As can be seen in Table 1, the highest response rates were from Finland, the United States, and Spain. The lower response rates were from the Netherlands, Belgium, and Ireland. It is possible that the lower response rate in the Netherlands and Belgium was because the survey was in English. It is also possible that the lists used limited the number of teachers reached. Future surveys will be available in the languages of the countries involved, and we will make more effort to disseminate the survey through colleagues in the field.

Table 1: *Survey responses by country*

Country	Number	Percent of total
Finland	66	21.4%
United States	59	19.2%
Spain	56	18.2%
United Kingdom	49	15.9%
Canada	25	8.1%
Netherlands + Belgium	19	6.2%
Ireland	12	3.9%
Other (Afghanistan, Australia, China, Germany, Italy, New Zealand, Thailand)	22	7.1%
Total	308	100%

In response to the options provided on the survey, most of the respondents self-identified as teachers (218) or teacher/managers (56). Very few identified as being only managers (14).

Most respondents reported working in full-time positions (242), of which roughly half were paid (115) and half voluntary (127), with more full-time voluntary than paid teachers.

About one-third had been teaching adult learners for one year or less (104), one-third between one and five years (99), and one-third for more than five years (105). Most reported working with adults with limited education and literacy. Respondents reported having more experience teaching adults oral skills than literacy.

Most of the training that respondents had received for working with adult learners focused on adult language acquisition rather than on adult literacy.

Responses regarding knowledge and skills needed

The first step in analyzing the data was to assign values to the responses to each of the following questions, where the lowest score was 0 and the highest score was 3: *Is this important in your work with low-educated adult immigrants?* and (2) *Is this important for your professional development?*

Responses by country

Response scores from all of the countries, to both questions, were high, at least 2 (or close to 2) out of 3, pointing to a high level of interest in and need for gaining the knowledge and skills mentioned in the questionnaire items. Although the differences in responses by country were not statistically significant in most cases, responses from Australia and Spain indicate a higher desire for additional professional development than those from the other countries. There are probably good reasons for this. In both countries the focus on immigrants learning the language of the country (English and Spanish respectively) is relatively new. In Spain, most of the focus in adult education is on oral language learning and not on literacy, and on primary and secondary school language learners and not on basic skills for adult immigrants learning Spanish. In the United Kingdom, United States, and Netherlands/Flemish-speaking Belgium, respondents show a lower need to learn more than those in the other countries. It is possible that more professional development is available for teachers of adults in these countries, with a focus on both oral language and literacy. However, as noted above, most of the differences from country to country were not statistically significant.

Responses by type of position held

Most of the teachers and managers responded that the knowledge and skills listed in the survey were *Very Important* or *Important*. Teachers and teacher/managers expressed a higher need for knowledge and skills than those who were just managers. This makes sense, since the items in the survey focus on classroom instruction rather than on program type and program structure.

Responses by work level and status

Full-time, paid respondents showed a greater need/desire for learning than part-time paid or volunteer respondents. This is expected, since the former have the time and resources to devote to professional development work.

Responses by amount of experience teaching LESLLA learners

Those with one to one-and-a-half years of experience teaching adult learners (but not specifically LESLLA learners; see below) indicated a higher need for

gaining more knowledge and skills than those with no experience. It is possible that those with some teaching experience have a greater understanding of their need to learn more than those with no experience. Not surprisingly, those with over 20 years of experience indicated the lowest levels of need.

Responses by type of professional development desired

Respondents indicated a greater interest in receiving professional development on adult language acquisition/oral skills than on adult literacy, but the differences in interest between these areas were statistically not significant.

Responses regarding knowledge and skills needed

The appendix shows the scores in response to the items in the survey, listed from the highest to the lowest. In both areas – knowledge and skills considered important in teaching and desire to learn more – it is clear that practitioners are focusing primarily on *skills* they need to teach effectively.

Many more items with high responses focused on skills than on knowledge. These include the following skills. The ability to ...

- Use teaching methods that facilitate learners' active participation in class and contribute their knowledge and experience
- Use authentic conversational situations and materials in teaching that reflect learners' daily experiences and meet their needs
- Develop and use materials that learners have encountered in their daily lives
- Guide learners in the process of developing reading and writing strategies that they can use independently in their daily lives
- Use instructional approaches to teach oral language skills.

Areas of *knowledge* that received the highest scores are closely related to these skills. Understanding and awareness of ...

- Learners' backgrounds, current situations, and learning potentials to guide course planning and teaching
- Current teaching materials suitable for developing language and literacy skills
- The effect of learners' first language(s) when learning the second/additional language
- The kinds of written information that learners encounter in their daily lives.

Generally, desire for better understanding and awareness of the principles and the processes (knowledge) that underlie teaching approaches and skills received lower scores.

4. Consultation with experts

Following the analysis of the survey results, an email message was sent to experts in each partner country. The email gave a brief summary of the major findings, with the top 10 and bottom 10 scores in each partner language and a link to the report produced on the survey. They were asked the following four questions: (1) Do you agree that these 10 items are very important? (2) Do you have any comments to add about this outcome? (3) Do you agree that the bottom 10 items are less important than the top 10 items? (4) Do you have any comments to add about this outcome? The results of this consultation were fed into a final set of knowledge and skills, to which was added another category: Attitudes/Dispositions. (See the final list of knowledge, skills, and attitudes at this link: <http://research.ncl.ac.uk/eu-speak/surveysandresults/>)

5. Survey of teachers' opportunities to gain LESLLA-relevant knowledge and skills

5.1. Methodology

A second survey was sent to a smaller group of selected LESLLA practitioners to ask about the pre-service training and in-service professional development available to them and what opportunities they had taken advantage of (available at this link: <http://research.ncl.ac.uk/eu-speak/surveysandresults/>)

Again the platform used was LimeSurvey, hosted by the University of Granada. Potential respondents were made aware of the survey via user lists and networks. Respondents were not necessarily the same individuals who responded to the first survey, since respondents to the first survey were anonymous, and we had no way to contact or track them. We assumed that many would be the same individuals, and that the two groups of respondents would be sufficiently similar. The results support this.

5.2. Results

We expected fewer responses to the second survey than to the first one, given our level of outreach each time. There were 137 respondents to Survey 2. Table 2 shows the number and percent of respondents by language and country. There were also six responses (listed in the category Other) from Afghanistan, China, Ireland, Italy, New Zealand, and Thailand. This survey was available in the languages of the partner countries in the project.

Table 2: *Responses by language and country*

Language	Number	Percent of total
English	45	33%
- from Australia (6-4%)		
- from Canada (8-6%)		
- from United Kingdom (22-16%)		
- from United States (9-7%)		
Spanish	26	19%
Dutch	29	22%
- from Belgium (20-15%)		
- from the Netherlands (9-7%)		
Finnish (Finland)	19	13%
German (Germany)	12	9%
Other	6	4%
Total	137	100%

Age

We did not ask the age of respondents in Survey 1, but we decided to do so in Survey 2, adding it as an optional response item. 128 out of 137 responded to this question, and their mean age was 46, with respondents in the following age categories.

Table 3: *Respondents by age*

Age range	< 35 years	35-45 years	45-55 years	> 55 years	Total
Number of participants	33	34	31	30	128

Gender

Unlike in Survey 1, we asked about gender in Survey 2. Again, this was an optional question, and 124 responded. The overwhelming majority of respondents was female (116), and a small minority was male (18).

Type of position held and work status

In response to the items provided in Survey 2, respondents self-identified as teacher, trainer, or manager. The majority self-identified as teacher (120) with combinations including trainer and manager. The majority held paid positions, either full time (55) or part time (62) with a much smaller number holding volunteer positions, either full time (1) or part time (19).

Experience teaching adult learners

In Survey 2, we fine-tuned the question about teaching experience, this time asking how many years' experience respondents had teaching literate adult immigrants and how many years' experience they had teaching adult immigrants with limited or no literacy. At least half of the respondents had more than five years' experience teaching adult immigrants with limited or no literacy.

Table 4: *Respondents' experience teaching adult learners*

Experience teaching	Years of experience			Total
	< 1 year	1-5 years	> 5 years	
Literate immigrants	20	41	76	137
Immigrants with limited or no literacy	36	34	67	137

Training received for working with adult learners

The training that respondents have received focused on working with adult learners is limited: a mean of ten hours in the past year and 44 hours in the past five years, including the past year. Respondents from Germany and Spain have received significantly more training in the past year than those from other countries.

Learners' levels of education

The levels of education of the learners that respondents work with was reported as low. It is interesting to note that 24% of the respondents reported that they do not know the level of education of the learners they work with.

- More than two years, but not full primary education: 77% of respondents
- No education: 62%
- Don't know learners' level of education: 24%

Focus of teaching

In response to the multiple choice question about the focus of their teaching, most respondents reported that they teach oral communication skills, writing, vocabulary, and reading (over 85% in each case) with many fewer reporting that they teach practical life skills (health literacy, employment, citizenship, and safety; 55% or lower for each of these; see Table 5).

Training to prepare for teaching

In response to the multiple choice question about the focus of the training they have received, respondents reported receiving much less training in each area than their focus in teaching. For example, while 95% reported that they teach oral communication skills, only 47% reported receiving training in oral language development. While 62% reported teaching grammar, only 28% reported receiving training in language structure. While 55% reported teaching health literacy, only 8% reported receiving training in that area. The differences between these two areas are shown in Table 5.

Table 5: *Content taught in class and focus of training received by respondents (N=137)*

Content taught in class	Respondents (N)	%	Training focus	Respondents (N)	%
Oral communication skills	113	95%	Teaching methodology	99	72%
Writing	108	91%	Materials	76	56%
Vocabulary	108	91%	Oral language development	65	47%
Reading	107	90%	Instructional strategies	63	46%
Listening	103	87%	Lesson planning	62	45%
Culture	86	72%	Assessment	61	45%
Life skills	82	69%	Teaching in mixed-ability classes	53	39%
Grammar	74	62%	Language structure	38	28%
Health literacy	65	55%	Life skills	31	23%
Employment	62	52%	Employment	18	13%
Citizenship/Visa	40	34%	Safety	14	10%
Safety	35	29%	Health literacy	11	8%
Other	14	12%	Numeracy	9	7%
			Other	14	10%

Responses regarding knowledge and skills needed by practitioners

In this survey, we asked not only about knowledge and skills needed by practitioners but also about attitudes needed to be effective with LESLLA learners (e.g., the teacher approaches teaching from the perspective of the learners, has high expectations for the learners, and works with other teachers to continue learning). We also added a section asking about Numeracy. Responses are listed at this link: <http://research.ncl.ac.uk/eu-speak/surveysandresults/>

Responses were similar to those in the first survey, with a focus on the need for specific instructional approaches and understandings and less focus on the need to understand research that underlies specific approaches.

6. Conclusion and next steps

The survey results show that all of the statements about the knowledge and skills that teachers need for working effectively with LESLLA learners received relatively high scores. Both teachers and managers want to gain the knowledge and skills mentioned in the survey items. Responses also show that respondents have had more training on teaching language acquisition and oral language skills than on adult literacy. While respondents indicated their need for specific skills for working with these learners, they seem to be less aware of the background knowledge that underpins the ability to develop and use these skills.

Results from the two surveys have guided our development of a pilot online study circle for teachers who work with LESLLA learners in countries around the world. The outcomes of the study circle will inform and guide development of an international curriculum framework.

In developing these professional development opportunities, we are focusing on instructional approaches and materials underpinned by research and theory that teachers and managers without specific LESLLA training can use immediately. The opportunities impart information to LESLLA professionals about the diverse factors that can affect LESLLA learners' trajectories in their development of oral and literacy skills (e.g., to CEFR B1 level and beyond). This approach to an international curriculum aligns with the interests and needs that respondents to the surveys and the expert consultation indicated. The respondents on whom these conclusions are based come from countries in which there are LESLLA learners. There is still a need to conduct a survey that reaches a wider spread of countries, including those in which adults who are not immigrants to the country are learning to read in the official language of the country (e.g., English) for the first time as adults.

Disclaimer

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Project Web Pages

EU-SPEAK 2 project: www.eu-speak.com

Surveys 1 and 2:

<http://research.ncl.ac.uk/eu-speak/projectreports/eu-speak2internationalsurveys/>

Responses to Survey 2:

<http://research.ncl.ac.uk/media/sites/researchwebsites/eu-speak2/EU-SPeak%20%20Knowledge,%20Skills,%20Understanding,%20Attitudes.pdf>

Appendix. Knowledge and skills survey 1: Item ratings*Is this important in your work with low-educated adult immigrants?*

Skills		Knowledge	
Ability to ...	Score	Understanding/awareness of/familiarity with...	Score
Use teaching methods that facilitate learners' active participation in a classroom environment and that allow them to contribute their own knowledge and experience	2.85		
Use authentic conversational situations in teaching that reflect learners' daily experiences	2.77		
Develop and use materials during the course that low-educated immigrant adults encounter in their daily lives	2.74		
		Learners' backgrounds, current situations, and learning potentials when planning and teaching your course	2.69
Guide learners in the process of developing reading and writing strategies that can apply independently outside the classroom and in situations involving written language	2.66	Current teaching materials suitable for developing low-educated adult immigrants' oral language and literacy skills	2.66
Use methods to teach oral language skills --pronunciation, grammar, pragmatics, and vocabulary -- in a second language to non-literate immigrant adults	2.62		
		That learners' competence and skills in their mother-tongue/first language affect literacy development in the second language	2.56
		Kinds of written information that learners encounter and use in their daily lives	2.55

Use a variety of multimodal materials for teaching reading and writing and modify them to meet learners' needs in their daily lives and work-related situations	2.53		
Analyze different materials currently available for low-educated adult immigrants to make sure that they are engaging and appropriate for their reading levels	2.51	Potential challenges to learning of psychological and physical conditions	2.51
		Stages of vocabulary learning and instructional methods for facilitating word learning	2.43
		Significance of phonological awareness in literacy training and its application in teaching	2.36
		Complexity of literacy skills	2.36
		Current information about learners' social, cultural, educational, and language backgrounds	2.33
		Ways to chart and analyze learners' progress in literacy	2.88
		Ways to chart and analyze learners' progress in oral language proficiency	2.27
		Information technology, digital tools, and media, including social media; how learners use them; and how they can be used to support teaching and learning	2.27
		Relationship between oral language mastery and methods for teaching reading and writing skills	2.26
		That learners' competence in their mother-tongue/first language affects second language acquisition	2.26
		Principles and processes of adult learning	2.25

	Language acquisition in different contexts and by different types of learners	2.25
	Spoken language as a system, including phonology, grammar, pragmatics, and vocabulary	2.22
	Stages of grammar learning and instructional methods for facilitating grammar learning	2.18
	How conditions governing spoken language and its acquisition relate to teaching low-educated immigrant adults	2.11
	Similarities and differences between spoken and written language in monolingual contexts	2.11
	Similarities and differences in uses of spoken and written language in multilingual and multicultural contexts	2.06
Base instruction that facilitates reading and writing development of second language learners on sound theories and research		1.95
	Literacy skills from an historic, political, sociocultural, and linguistic perspective	1.72

Is this important for your professional development?

Skills		Knowledge	
Ability to ...	Score	Understanding/awareness of/familiarity with ...	Score
		Current teaching materials suitable for developing low-educated adult immigrants' oral language and literacy skills	2.41
Use teaching methods that facilitate learners' active participation in a classroom environment and that allow them to contribute their own knowledge and experience	2.38		
Guide learners in the process of developing reading and writing strategies that they can apply independently outside the classroom and in situations involving written language	2.37		
Develop and use materials during the course that low-educated immigrant adults encounter in their daily lives	2.27		
Use methods to teach oral language skills --pronunciation, grammar, pragmatics, and vocabulary -- in a second language to non-literate immigrant adults	2.26	Learners' backgrounds, current situations, and learning potentials when planning and teaching your course	2.26
		Complexity of literacy skills	2.22
Use a variety of multimodal materials for teaching reading and writing and modify them to meet learners' needs in their daily lives and work-related situations	2.19		
Use authentic conversational situations in teaching that reflects learners' daily experiences	2.17		
		Potential challenges to learning of psychological and physical conditions	2.16

	Information technology, digital tools, and media, including social media; how learners use them; and how they can be used to support teaching and learning	2.13
	Ways to chart and analyze learners' progress in literacy	2.13
	That learners' competence and skills in their mother-tongue/first language affect literacy development in the second language	2.11
	Stages of vocabulary learning and instructional methods for facilitating word learning	2.11
	Significance of phonological awareness in literacy training and its application in teaching	2.08
Analyze different materials currently available for low-educated adult immigrants to make sure that they are engaging and appropriate for their reading levels		2.07
	Language acquisition in different contexts and by different types of learners	2.04
	Relationship between oral language mastery and methods for teaching reading and writing skills	2.03
	Ways to chart and analyze learners' progress in oral language proficiency	2.01
	Current information about learners' social, cultural, educational, and language backgrounds	1.95
	Similarities and differences in uses of spoken and written language in multilingual and multicultural contexts	1.92
	How conditions governing spoken language and its	1.91

		acquisition relate to teaching low-educated immigrant adults	
		Kinds of written information that learners encounter and use in their daily lives	1.90
Base instruction that facilitates reading and writing development of second language learners on sound theories and research	1.90	Stages of grammar learning and instructional methods for facilitating grammar learning	1.90
		Spoken language as a system, including phonology, grammar, pragmatics, and vocabulary	1.88
		Literacy skills from an historic, political, sociocultural and linguistic perspective	1.84
		Similarities and differences between spoken and written language in monolingual contexts	1.83
		That learners' competence in their mother-tongue/first language affects second language acquisition	1.82
		Principles and processes of adult learning	1.82

ENGLISH FOR ADULTS IN ERITREA: PERSPECTIVES AND PRACTICES IN SECOND LANGUAGE TEXTBOOK PREPARATION

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Abstract

This paper outlines the process of preparing *English for Adults*, a set of teaching materials for adult literacy and post-literacy programmes in Eritrea. These programmes are taught in a number of local languages: the country supports the use of its nine native languages in education and English is offered as a subject for adult learners. In preparing these teaching materials, communicative approaches to second language learning and adult learner-centred instruction strategies were adopted with some elements of the traditional, grammar-based teaching methods incorporated. The project involved the entire staff of the Department of Adult Education and Media (DAEM), Eritrea's main provider of adult education programmes, and facilitators from adult learning centres in the country. The paper sets out the methodologies employed for undertaking this task in a relatively short timescale and the challenges faced in reconciling the different approaches to English language teaching.

Keywords: adult education, second language teaching, textbooks, English for adults, Eritrea

1. Introduction

This study examines the production of *English for Adults*, a set of teaching materials for adult literacy and post-literacy programmes in Eritrea. These programmes are offered in a number of local languages: Eritrea supports the use of its nine native languages in adult education. The country has recently begun to offer English as an element of its adult literacy and post-literacy programmes. A key consideration in writing English textbooks for adult learners was how best to gear these to their specific communication needs. As a result, the textbooks were designed in ways that incorporated communicative approaches to second language learning and adult learner-centred instruction. This contrasted with the more traditional grammar-based English language teaching

and teacher-centred instruction in Eritrea's formal school system. Central to the production of *English for Adults* was the involvement of the entire staff of the Department of Adult Education and Media (DAEM), a branch of the Ministry of Education and the main provider of Eritrea's adult education programmes, plus facilitators from the country's adult learning centres. They were tasked with assessing adult English language needs, preparing materials (e.g., reading passages, exercises) and commenting on draft chapters.

In 2011, I was hired by the British Council in Eritrea (which suspended its operation in the country a year later) to support DAEM in producing English teaching materials for their adult literacy and post-literacy programmes. My terms of reference for assisting DAEM in this project highlighted the following specific tasks to be completed within a 6 month period:

- Undertake a desktop review of existing literacy and post-literacy policy and programme documents, guidelines and frameworks;
- Design an action plan on how to proceed with the three-level adult education programmes;
- Design, develop and edit teachers' guides and students' textbooks for those programmes;
- Support DAEM in introducing effective teaching methods and preparing materials; and
- Complete and submit an electronic file of the teachers' guides and students' textbooks to DAEM.

This paper outlines the challenges and opportunities such an ambitious undertaking presented in introducing new perspectives, notably, complementing traditional, structure-based methods of English language teaching with communicative and learner-centred approaches. These perspectives are not entirely new to Eritrea. A communicative approach has been present in its formal education system since the mid 1990s. Learner-centred pedagogy was introduced as part of revisions to the national curriculum in 2004 (Government of Eritrea 2002). This paper will firstly set out an overview of adult education in Eritrea. It will then briefly describe the English teaching materials produced in 2011 and discuss the challenges faced in their preparation.

2. Education in Eritrea

Eritrea, a country in the Horn of Africa which gained independence in 1993, has a mother tongue education policy that allows members of all nine of its

ethnolinguistic groups to receive elementary formal and adult education in their native language. Eritrea's national curriculum involves teaching in nine native languages and three different writing systems: the full Latin alphabet (Bilen, Bidhaawyeet, Kunama, Saho, Nara, and Afar), consonantal-alphabetic Arabic script (Arabic) and syllabic Ge'ez script (Tigrinya and Tigre). English is taught in elementary schools and in literacy and post-literacy adult programmes as a preparation for English medium instruction in secondary and higher-level education.

Beyond its educational institutions, Eritrea's diversity of scripts and languages are evident in its public broadcast media, business, and local informal commerce. A walk along the streets of many towns will reveal the use of up to three scripts and languages in the signage of shops, bars and restaurants. The official nameplates of government offices are normally written in the three respective scripts of Tigrinya, Arabic and English, although most business is conducted in Tigrinya. Tigrinya and Arabic enjoy a prominent role in official public discourses. English, however, is the medium of instruction in all secondary and higher educational institutions and is the language of formal communication for local and international businesses like banks and insurance companies.

As with most institutions in Eritrea, its educational system has been heavily influenced by the country's liberation struggle against Ethiopia. In that context, the Eritrean People's Liberation Front (EPLF) has been credited with implementing social programmes in areas under its control. The 1983 – 1987 literacy campaign started with 451 graduates of the Revolutionary School and reached 56,000 adults in 183 learning centres (Gottesman 1998; 2000). Gottesman (1998: 254) stated that the teachers "worked to advance ... mass literacy, social change, and national liberation" within rural and nomadic communities and that the literacy campaign was one of the formative experiences of educators who are currently running Eritrea's multilingual educational system (Gottesman 2000).

Many of these fighters-turned-educators now work for DAEM, the leading body for providing adult education in Eritrea. DAEM has also been active in co-ordinating and regulating the curriculum for a wide range of private, public and NGO adult education providers. To help it achieve this task effectively, DAEM has devised the curriculum, prepared teaching materials in different languages and conducted assessment studies to better inform its practice. The various units within DAEM's Curriculum Division have been responsible for most of this activity. Through creative team work and by accessing external resources, they have successfully addressed the challenges presented to them.

3. Adult and non-formal education in Eritrea

DAEM's (2009: 2) policy document defines adult and non-formal education as:

The entire range of organized learning or educational activities outside the structure of the formal education system that are undertaken by adults and out-of-school youth, in order to enhance their quality of life, and thus enable them to contribute to the ongoing national development programme.

This broad definition includes activities that DAEM offers at three levels (literacy, post-literacy and continuing education) at more than 1000 learning centres across Eritrea. The Department also produces adult radio programmes in Tigrinya and Tigre, the two languages with the largest number of native speakers. DAEM's broad definition also includes language and computer and vocational (camera operation, etc.) training by private or non-governmental organisations. Adult evening classes based around the formal education curriculum are available in the towns and cities.

Eritrea's national adult education policy document (DAEM 2009) identifies the 15 – 45 age group as a key priority, with a particular focus on: disadvantaged groups such as women, disadvantaged rural areas, active members of the community (leaders), factory workers, demobilized soldiers, displaced persons, the disabled and prisoners.

An annual average of 55,000 adult learners, over 90% of them female, attended adult education programmes all over the country between 2001 and 2010. The average completion rate was 77%. By 2010 the number of adult programme centres in Eritrea had risen to 842 with all but one of its nine native languages being used as a medium of instruction. There were now over 2,200 facilitators (teachers) and 92 community rural reading rooms (DAEM 2013).

Curriculum and textbook development has been mainly the responsibility of DAEM's Curriculum Division, which contains panels of experts in Eritrean languages, English, numeracy, basic sciences and social studies. They are responsible for curriculum development and preparing teaching materials (textbooks) and facilitators' guides. In preparing teaching materials, panel members followed these guiding principles (DAEM 2013; DAEM 2009):

- encourage learner-centred pedagogy;
- encourage self-learning among adults;
- remain relevant to learners' daily lives outside the learning centre;
- encourage problem solving skills and creativity; and

- demonstrate gender sensitivity and awareness of cultural diversity.

By 1997, DAEM had produced a basic literacy and numeracy book for beginners in Tigrinya, whose native speakers account for 50% of Eritrea's population. In 1998, books in seven more languages were published, increasing the number of available titles for literacy and post-literacy programmes to fourteen (DAEM 2013) and covering eight of the country's nine languages. Speakers from each language group were invited to comment on the teaching materials to allow for further improvements before publication.

In the years that followed, a consensus-based approach was developed. Panels of six to eight writers, facilitators and other professionals from each language group were engaged to prepare teaching materials in each language for different areas of instruction. Starting with a common basic text or a scope-and-sequence description, the process involved upgrading the original materials, translating a concept in Tigrinya or English into the target language, resolving difficulties created by regional linguistic variations or dialects, and checking the manuscripts in detail for errors or inconsistencies. Before printing the books, a quality assurance workshop was convened, where experts from the formal education sector, the teacher training institute and other higher education bodies were invited to offer critical comments. Occasionally, this draft teaching material was distributed for the short-term use of facilitators and supervisors at learning centres: they were then invited to give feedback on these drafts. At the end of this process, the books were published and distributed to learning centres, sometimes with accompanying guidance (workshops) to facilitators on use of the teaching materials (DAEM 2013).

By 2013, DAEM had published teaching materials in all nine Eritrean languages for literacy programmes and in eight languages for post-literacy programmes. These covered basic literacy, numeracy and social studies. Similar processes were followed for Complementary Elementary Education (CEE) teaching materials, aimed at 9 – 14 year olds who for different reasons had not received formal education. English textbooks were also prepared for the literacy, post-literacy and CEE programmes. The production of English teaching materials for adult literacy and post-literacy differed from the CEE texts as the latter mainly involved adapting English textbooks designed for elementary level formal education. These were geared to the ultimate goal of mainstreaming CEE children into formal education at a middle school level.

The English teaching materials were produced in a similar manner. It involved a team of around 25 members, drawn from DAEM's Curriculum and Educational Media divisions (including its English and native language panels), plus external support from experienced teachers of regular or adult literacy from across Eritrea. Under the project's terms of reference, my remit as a consultant

was to assist them in designing, developing and editing the *English for Adults* learner books and the accompanying teachers' guides for all three levels of the country's adult literacy and post-literacy programmes.

I was also expected to support DAEM in introducing effective teaching methods and preparing materials and to complete and submit the corresponding electronic files to the Department. The initial work was conducted by the Curriculum Division's writing team with my support, whereas any subsequent changes were our joint responsibility. Certain team members produced a chapter based on agreed scope-and-sequence guidelines that originated from the outline of curriculum. Other consultants were responsible for reviewing each completed chapter and providing content and language related advice. Then, at a quality review workshop, curriculum staff in the formal education sector and teacher training institute personnel reviewed the later drafts, allowing for final revisions before publication.

The rationale for offering courses in English to adult learners is an important matter, and deserving of detailed discussion. The interviews conducted and documents assembled for the purposes of this paper provided strong evidence that DAEM staff were responding effectively to adult learners' requirements. For example, when drafting their national adult education policy document, the Department undertook consultative "meetings and workshops involving all key players in adult education" (DAEM 2009). Such activities, along with supervisory visits to learning centres and the comments of facilitators, have all informed decisions on the content of Eritrea's adult education curriculum and textbook development, including the decision to offer adult English courses (DAEM 2013; Ticabo Ayimut, Head, Curriculum Division, personal communication 2014). Another reason, apart from popular demand, is the prominent role that English plays in Eritrea's formal educational system where many graduates of its adult education programmes are expected to progress their education in regular classes. The importance of English can also be evidenced in the linguistic landscape of Eritrea's urban centres where written English, along with the major local languages, Tigrinya and Arabic, is widely used in signage along the streets (Asfaha 2009).

4. The *English for Adults* textbooks

In 1994, the Ministry of Education's English panel and experts from the British Council revised the English curriculum used in Eritrea's elementary schools with the primary objective of adopting a communicative approach. This, however, was never fully implemented (Wright 2002) and from 2002 onwards a

subsequent revision shifted the overall orientation to one that was more traditional and grammar-focused. The current elementary school English curriculum, where it is taught as a subject between first and fifth grades, emphasizes alphabet recognition, listening and oral comprehension in the first and second grades, and general vocabulary, grammar, reading and writing in third, fourth and fifth grades. It is therefore quite comprehensive and is supported by well-developed textbooks and a detailed teachers' guide (Walter & Davis 2005).

In contrast to this more formal approach, however, we recognised that different methodologies would be appropriate when designing the *English for Adults* textbook. We agreed that it would be better for the teaching material to embrace a communicative approach, which emphasises learners' practical use of English rather than teaching decontextualized language structures. This required us to address the functional language needs of adults, as these were likely to differ markedly from those of children in formal education. Those functional needs, however, had to be reconciled with the need to integrate adult education and continuing education graduates into Eritrea's mainstream education system. The content of *English for Adults* therefore had to strike a balance between material promoting communicative functions and material not that far removed from English as taught in formal education. For example, several exercises on vocabulary, grammar, reading and writing (heavily focused on in the formal education curriculum) were combined with speaking exercises and opportunities for learners to practise English in particular communicative contexts.

Other considerations included a focus on particular skills rather than on multiple skill areas spread thinly; learner-centred, interactive and participatory materials; and content that is contextualised to adult learners' daily lives (DAEM 2009). The introduction to *English for Adults* explains that the material:

... has been prepared with appropriate attention given to adult needs and learning preferences. The content is broad and relevant to their daily lives. The learner centred teaching adopted allows for pair and group activities and independent learning through take-home assignments and use of a glossary of key words and language focus boxes within the textbook.

The main goal of the adult English programme is set out in the expected learning outcomes statement in the Level 3 Teachers' Guide: "By the end of the third level English for Adults programme, the learners are expected to communicate in basic English in different contexts using a core vocabulary in the range of 1,200 – 1,300 words and using basic grammar."

After the introduction and the table of contents, the books contain a 'book map', described as follows:

The book map has different columns: unit and title, competencies, grammar, vocabulary and sub-skills. The unit and title column gives the unit number and topic or theme for each unit. The competencies column states what learners, after finishing the lessons in the unit, are expected to do using the English they acquired (for example, ask for and give directions). The grammar and vocabulary columns give list[s] of structures and words that are covered in each unit. Any additional skills taught in each unit are listed under the sub skill column. The list of words at the end of the book gives basic meanings of key words introduced or used in the book.

Listening: Abadi goes to a fruit market

Listen to the dialogue.



Abadi: Good morning.
 Shopkeeper: Good morning. How can I help you?
 Abadi: Do you have papayas?
 Shopkeeper: Yes, we have papayas. We also have mangos, oranges, watermelon, ...
 Abadi: I will have a kilo of papayas, please.
 Shopkeeper: Here you are. Do you need anything else?
 Abadi: Yes, can I have some lemons, please?
 Shopkeeper: Here you are. That will be 45 Nakfa.
 Abadi: Thank you.
 Shopkeeper: You are welcome.

Figure 1: A sample exercise focusing on how to start, proceed and end conversation in a market context (Level 1 English for Adults)

The main body of the textbooks contains illustrated exercises, prompting learners to 'look and say', 'listen and say', plus exercises in listening, speaking and, eventually, writing. Individual, pair and group work, and take-home assignments were considered particularly effective for adult learners. Role-play, games, research and presentation were also included. As electronically-recorded exercises may not be always available to teachers in Eritrea, transcripts of all listening materials were provided at the end of the teachers' guide.

Grammar: Indirect speech

Work in pairs. Rewrite the following sentences into indirect speech.

*This is Fatuma.
She said she had
a sore throat.*



Example: Fatuma said "I have a sore throat."
 She said she had a sore throat.

1. He said "I get pain in my stomach."
2. They said "[W]e can't sleep well."
3. The doctor said "The patient has a fever."
4. She said "I comb my hair every day."
5. Milkias said "I use [a] toothbrush every day."

Figure 2: A sample exercise focusing on grammar (Level 3 English for Adults)¹

5. Challenges

One of the biggest challenges our team faced was that of balancing the conflicting demands of the traditional grammar-based and the communicative approaches. The writing team encountered various levels of resistance to

content deviating from established conventions in formal education. This was reflected not only in the choice of content but also in perceptions of the teacher/facilitator's role. What kind of games should be incorporated in the teaching materials? Is the teacher's role one of imparting knowledge to learners or that of a mere facilitator? Efforts were made to answer these and other questions in ways that sought to balance the opposing concerns. Another persistent theme was the need not to deviate too far from the content and style of materials used in formal education in order not to disadvantage learners who wish to continue in the mainstream education system after completing the adult programmes. Running counter to this, however, was the need to acknowledge the differences in learning preparedness and life experiences between adults and children. These matters were fully addressed by the project team in their efforts to reach a balance between traditional content and the communicative approach. Allowing contributors to devise teaching content in isolation meant losing editorial control over the content of their assigned chapters. While encouraging creativity, this ran the risk of some teams submitting non-original materials as their own. Time constraints meant that it was not always possible to check their originality.

Incorporating L2 writing skills teaching materials into the overall process proved difficult. Because the target learners of Level 1 *English for Adults* were still attending literacy programmes in their respective native languages, it was assumed that the development of their English writing skills would have to wait until the post-literacy programme stage. However, there was a strong push by the Curriculum Division to incorporate writing skills in the Level 1 materials. As a compromise, exercises on writing the letters of the English alphabet were included immediately following the lessons on the phonics of spoken English.

Due to the prevailing economic situation in Eritrea and difficulties in bilateral and multilateral cooperation (e.g., the British Council suspended its operations), some of the final stages of the *English for Adults* project have not yet been completed. Although the books and guides have already been printed and partially distributed, workshops to assist teachers in their use have not taken place. A systematic study of teachers' feedback on the textbooks and teacher guides remains to be designed.

English has no social or cultural roots in Eritrea despite its prominence in the country's educational institutions and its visibility in the urban linguistic landscape. This created a practical challenge in designing certain aspects of the teaching materials. As none of the team members or consultants in the project were native English speakers, some tasks, such as designing phonics exercises, posed difficulties.

The role of English in adult education might also help generate critical reflections on the status of the language in Eritrea. Questions can be raised as to why English enjoys such prominence in the education system of a country where it has a limited social role and use (Walter & Davis 2005). One may argue that the Eritrean education system, whose roots lie in revolutionary resistance and sensitivity to cultural and linguistic diversity (Gottesman 1998), may have partly given way to the ideological influences of English as a world language in a country where minority and dominant native languages are promoted in the educational system. However, it is also possible to argue that this specific project to produce English teaching materials is yet another example of adapting and owning (Wright, 2002) the global language and the teaching innovations associated with it by local educators and learners in a post-conflict social context.

Note

- 1 I thank an anonymous reviewer and a proofreader for pointing out these errors in the extracts from the textbooks which have already been published, unfortunately, with these mistakes on them.

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IMPLEMENTING THE MUTUALLY ADAPTIVE LEARNING PARADIGM IN THE LESLLA CLASSROOM

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Abstract

This paper describes a LESLLA researcher-practitioner partnership and traces the successes and challenges of practitioners implementing the Mutually Adaptive Learning Paradigm® (MALP®) instructional model at the Greater Pittsburgh Literacy Council, a community-based adult literacy program in Pittsburgh, PA, USA. Implementation was introduced in four classes: Bridge Literacy, Foundations, and two Family Literacy classes. Our initial findings suggest that use of MALP encouraged active participation, further developed a sense of community, reduced cultural dissonance, and encouraged greater LESLLA learner responsibility helping to enhance an already learner-centered curriculum.

Keywords: refugee, low-literate, adult education, classroom practices

1. Introduction

As more and more LESLLA students enter educational and training programs, there is a greater need to expand and enhance how practitioners work with these struggling learners. They are most likely to struggle because they find themselves confounded by the ways in which the language and content are presented, practiced, and assessed (DeCapua & Marshall 2011: ix). Researchers, too, continue to develop frameworks for best practices to help LESLLA learners succeed inside and outside the classroom while at the same time trying to connect with and support practitioners working with such students. How can these practitioners and researchers come together in a meaningful way to support each other's work? What is the best way for researchers and practitioners to work together in ways that benefit LESLLA students? This paper describes a LESLLA researcher-practitioner partnership and traces the successes and challenges of the practitioners implementing the Mutually Adaptive Learning Paradigm® (MALP®)¹ instructional model at a community-

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based adult literacy program in Pittsburgh, PA, USA. After describing the program and its students, we'll examine and explain the MALP model, detailing implementation and assessing implications for further use.

2. Implementation site

The site of our implementation of the MALP instructional model is Greater Pittsburgh Literacy Council (GPLC), a community-based organization in Pittsburgh, PA, USA. GPLC provides instructional programs in ESL (English as a Second Language), GED (General Education Development) Preparation, workplace skills development, basic skills (reading, writing, math), and family literacy. All services provided to students are free. While GPLC has volunteer tutors providing one-to-one and small group instruction throughout the city, MALP implementation was realized at its Downtown Center location with full-time instructional staff experienced in working with LESLLA students. These instructors are responsible for classroom instruction of 10-20 students per class along with creating curriculum, lesson planning and materials development.

2.1. Placement procedures

Incoming ESOL students at GPLC are assessed with the *BEST Plus* (*Basic English Skills Test*²). *BEST Plus* is an individually administered, face-to-face oral interview designed to assess the English language proficiency of adult English language learners in the United States. *BEST Plus* is a combined test of listening and speaking skills. As an oral assessment, *BEST Plus* provides a short, practical test that meets the accountability needs of publically funded programs that report to the National Reporting System (NRS) (Elson & Krygowski 2012: 184).

In addition to the *BEST Plus*, GPLC also uses a writing sample to assess students. Students' writing abilities range from being able to write a few letters of the Roman alphabet to their full names and addresses. Some are able to write short sentences such as, *My name is* or *I am from*, some may be able to write a few words in their native language. Based on writing samples from students in classes that participated in the MALP implementation, they ranged from being nonliterate (learners who have had no access to literacy), semiliterate (learners who have had limited access to literacy instruction) or emergent readers (Elson & Krygowski 2012: 185).

2.2. Classes and students

The ESL classes offered to students range from Foundations to Advanced level. Most classes have around 10-15 students. During particularly busy times of the year, class size can grow to 20 students, but this is usually an anomaly. Classes are open-enrollment, open-entry and open-exit; new students can join the class at any time (and most refugees join soon after arriving in Pittsburgh), and students leave a class when test scores and informal assessments show they can advance or when they begin jobs (Elson & Krygowski 2012: 186). For the purpose of the MALP implementation, three classes were chosen, Foundations with students scoring at a 0-1 SPL (student performance level) / Beginning ESOL literacy level to Bridge Literacy with students scoring 2-3 SPL level / Low Beginning to High Beginning ESOL level to Family Literacy which has large ranges of students from Beginning to High Intermediate ESOL.

The students in the Downtown Center classes tend to be newly arrived Bhutanese refugees, along with Burmese and Iraqi refugees. There is now an influx of students from Central Africa (Rwanda, Congo, Burundi, Tanzania) in our classes as well. The students range in age from 25-70 years old, and the majority of them spent nearly 20 years in refugee camps.

3. Partnership

At the 2013 LESLLA Symposium, held in San Francisco, CA, USA, there was a call for researchers and practitioners to come together to share expertise. "The 'Partnerships in LESLLA' program aimed to stimulate a new culture of cooperation and collaboration in the LESLLA community" (2013 LESLLA Symposium program, p. 20). Allegra Elson, a GPLC instructor, attended the symposium and met researchers Andrea DeCapua and Helaine Marshall at their session: *Transitioning to Schooling: Reducing Cultural Dissonance in a Community-Based Literacy Program*. After some discussions at the symposium, Dr. Marshall visited GPLC where she presented the MALP instructional model to instructors and administrators. After follow-up meetings via Google Hangout, a partnership was formed that included three instructors from GPLC, Drs. DeCapua and Marshall, along with approval from GPLC's Associate Director. The partnership agreement was settled in the fall of 2013. The goals of this collaboration were to create an on-going partnership between the researchers and practitioners in order to evaluate the model and provide data for the researchers, improve methods for structuring and evaluating instruction for

practitioners and to help LESLLA students become more successful in our classrooms by reducing cultural dissonance (Ibarra 2001).

3.1. Mutually Adaptive Learning Paradigm

The MALP model and the philosophy that underpins it has been described extensively in other sources, therefore we will only treat it briefly in this article. Those who are interested in further information on the creation of the model and the research that informs it should refer to works by Dr. Andrea DeCapua and Dr. Helaine W. Marshall, the researchers who developed the model (Marshall & DeCapua 2011, 2013). Our focus here is instead upon what the implementation of this model looks like in our particular classrooms at GPLC. Some background and explanation, however, is, required to make sense of our implementation.

The Mutually Adaptive Learning Paradigm, or MALP, is an instructional model developed to help reduce cultural dissonance in students with limited or interrupted education. The model seeks to reduce cultural dissonance by combining the informal methods and conditions for learning that LESLLA, or SLIFE (students with limited or interrupted formal education, a term that MALP researchers use interchangeably with LESLLA) students bring to the table with the sort of activities and tasks needed to participate in a Western-style classroom (see Figure 1).

Two Different Learning Paradigms		
Aspects of Learning	SLIFE	U.S. Classrooms
CONDITIONS	Immediate Relevance	Future Relevance
	Interconnectedness	Independence
PROCESSES	Shared Responsibility	Individual Accountability
	Oral Transmission	Written Word
ACTIVITIES	Pragmatic Tasks	Academic Tasks

(Adapted from DeCapua & Marshall, 2009, 2011; Marshall, 1994, 1998)

Figure 1: *Two different learning paradigms. Adapted from DeCapua & Marshall 2009, 2011. Marshall 1994, 1998.*

MALP aims at reducing cultural dissonance in LESLLA students while at the same time helping them successfully transition to working within a Western-style classroom. Cultural dissonance here refers to “a sense of confusion and dislocation that students coming from different cultural backgrounds and ways on learning experience when confronted with the expectations and demands of Western-style formal education” (Ibarra 2001; Nieto 2010: 9, as cited in Marshall & DeCapua 2013). That is, LESLLA learners must not only learn a new language and, often times, new content material, but they must do so in ways that are largely unfamiliar as well, producing a sense of things being “off” and making learning less accessible to them in this environment (Marshall & DeCapua 2015). The model addresses the sense of dislocation that LESLLA students may face by adopting a blend of LESLLA student expectations for learning with the typical expectations of a Western classroom. The model accepts LESLLA learners’ conditions for learning (materials and subject matter immediately relevant to their lives, a feeling of interconnectedness with fellow classmates and the teacher). The model also combines both LESLLA and Western-style processes, or means through which students approach new material, by using the written word (Western-style) alongside oral transmission (LESLLA) and including opportunities for both shared responsibility (LESLLA) and individual accountability (Western-style) in the classroom. By providing conditions and processes that are familiar and comfortable for LESLLA students, students are then less likely to feel overwhelmed when they are asked to perform decontextualized tasks, the type of learning tasks expected in a Western classroom. In short, the model seeks to meet LESLLA students where they are when they arrive in Western classrooms while at the same time gradually introducing them to and preparing them to successfully participate in the learning culture of their new country (Marshall & DeCapua 2013).

During our initial meetings, we evaluated the model and saw that some of our classroom practices already fit the model while others did not. One of the ways that our classroom practices aligned with the model was our focus on immediately relevant content from our students’ lives. Given our student population and the urgency with which some needed to learn English, we were (and continue to be) constantly focusing on such material. We concentrate strongly on instruction and curriculum that take into account the life experiences, goals, family and workplace needs of our students, what Condelli and Wrigley (2006) call “bringing in the outside”(p. 127). Classroom practices that did not fit the model were a tendency to have Foundations level classes more teacher-centered with the teacher choosing all the topics, not creating enough opportunities for independent work, and not enough connections between oral and written tasks. As implementation began, our goal was to align

our teaching with the model, initially relying heavily on using the MALP checklist, a rubric of sorts, to plan lessons and develop materials (see Appendix).

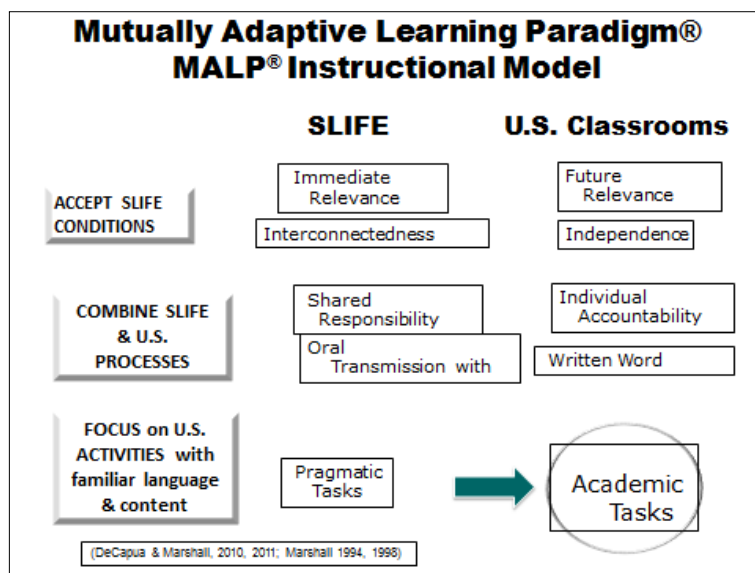


Figure 2: *How the Mutually Adaptive Learning Paradigm blends LESLLA (SLIFE) learner expectations and western (U.S.) classroom learner expectations. Adapted from DeCapua & Marshall (2013: 32).*

3. Implementation

3.1. Sara's Bridge Literacy class

In Sara's afternoon Bridge Literacy class, the model was implemented with refugee students from Bhutan, Iraq, Somalia, Burundi, and Uzbekistan who scored 2 or 3 SPL levels on the Best Plus test. The class size ranges from 10-20 students at any given time. The model was used to create a Neighborhood unit, culminating in a student-developed Neighborhoods booklet. The core of the unit was an LEA (Language Experience Approach) based on the neighborhoods in which the students live. The Language Experience Approach, originally developed for teaching reading to native speakers of English (Van Allen & Allen 1967), is an instructional approach that has been adapted for use with ELLs. It uses a shared experience (a class trip, going to the doctor) as a prompt for speaking and writing. The instructor asks the students to recount the experience,

records the students' responses and uses them as a reading text for the class. LEA is a way to create learner-generated texts and is an efficient technique in working with emergent readers as it connects what they are able to communicate orally to what they are learning to do in print (Crandall & Peyton 1993 as cited in Vinogradov 2010). The aforementioned MALP checklist (DeCapua & Marshall 2011; see Appendix A) played a major role in lesson planning, creating a framework for the activities that culminated in the students creating their own booklet. The checklist was used to plan and ensure LESLLA learner expectations were accommodated while simultaneously beginning to introduce the students to decontextualized activities. The checklist was used again following the lessons to evaluate how well learner expectations were accommodated while transitioning the students into performing less familiar tasks.

The teacher and students decided to work on neighborhoods because the subject matter was immediately relevant. The students' respective neighborhoods are part of their daily lived experience (where they go shopping, what bus they take to school, where their children go to school, etc.), and neighborhoods are a frequent topic of conversation in daily Pittsburgh life outside the classroom too. Neighborhoods come up frequently because Pittsburghers often talk about their neighborhoods as a way of placing people within the city. And, as Auerbach notes, learning should be contextualized, relevant, and lessons should draw upon the actual experiences and concerns of the learners (Auerbach 1992).

The project began by having the students discuss where in Pittsburgh they lived. The students asked each other "Where do you live?" As students named their neighborhoods, more proficient students wrote the different neighborhoods on the board. Everyone helped with the spelling on the board. After introducing the topic orally and with some words written on the board, the class then used color photos to develop vocabulary related to things the students would see in their neighborhood like school, park, bank, etc. Studies have shown that nonliterate subjects are better at naming two-dimensional representations of real objects when presented as colored photos as compared to black and white drawings (Reis 2006 as cited in Elson & Krygowski 2012). The students then used cards with the vocabulary words to match to the picture cards. After associating the words with the appropriate pictures, the students then used the picture cards and word cards to play games and ask each other what they see in their neighborhood. In short, the students talked a lot, interacted with pictures, single words, and a few short sentences before they began reading and writing about their neighborhoods.

Rather than using text as a starting point, as is often done in Western classrooms, the instructor capitalized on the students oral capabilities and familiarity with the subject matter through images and only then began to introduce text and print. Likewise, even after text was introduced, the teacher, using the checklist as a reminder or prompt, was mindful to use print and oral interaction in tandem to consistently ground the less familiar element of print in the familiarity of the spoken word. The language and content are familiar because the students are using language to recall and retell what they already know about, heard about, or have experienced (Marshall & DeCapua 2013: 64-65).

Following this gradual introduction of print, the class read a story about the teacher's neighborhood, first chorally and in partners (shared responsibility) and then one-by-one (individual accountability). The class asked questions about the story (decontextualized learning/academic) like "Is there a school in her neighborhood?" The students must re-read or scan the story for this information. Though the task of looking for the information may be new, it is scaffolded through what is now familiar vocabulary and subject matter.

The final part of this unit is when the students then completed a cloze activity or used sentence frames based on the original story to share about their own neighborhood and the things they see in it. More proficient students were given more open-ended sentence prompts.

Using the stories the students wrote, the teacher then compiled the LEAs into a booklet to use for further activities in class. Since it is a Bridge Literacy class, many of the activities were intended to build literacy, as well phonics and phonemic awareness. Rather than introduce such unfamiliar tasks with decontextualized phonics lessons, phonics and phonemic awareness were taught in the context of the students' own stories. When students are familiar with a given topic and have a bank of words, teachers can then spend time on sound-symbol correspondence, and learners can discover how letters and sounds are related (Brod 1999: 16, as cited in Vinogradov 2010).

One of these literacy activities included asking students to sort key words from other students' stories based on the sound of the first letter. This required the decontextualized task of sorting as well as phonemic awareness, but did so using familiar, student-generated words. Other academic or decontextualized tasks students did were:

- answered comprehension questions about the stories
- practiced syntax using sentences from students' own stories
- compared and contrast two different students' stories

- students from same neighborhood worked in groups to create a short “Our Neighborhood” summary, focusing on using the first person, plural pronoun and possessive pronoun *we* and *our*.



Figure 3: *Sara’s Bridge Literacy class sort key words from their stories based on first letter sound and write them on posters around the class.*

Through use of the MALP model, the teacher was able to use the students’ comfort with speaking and familiarity with their own neighborhoods as the basis for gaining confidence in participating in new, decontextualized classroom tasks. The students worked on immediately relevant content about where they live and their community, and were given the opportunity to share about themselves and their neighborhood with others and the teacher to develop interconnectedness. The students gained facility with the written word by using it along with the spoken word when doing scaffolding activities, composing and reading their neighborhood LEAs. The students were accountable to their own individual learning as well since they ultimately each composed their own neighborhood story, but did so only after sharing the responsibility by helping each other write and spell at the board, asking each other questions, and participating in vocabulary review together. While working on material that was relevant, contextualized, and engaging, the students were able to get to know each other and the teacher, and the students were then more at ease and willing to participate in new, decontextualized tasks, such as sorting words, practicing phonemic awareness, and syntax. These decontextualized tasks were made

more accessible to our LESLLA students through their own experiences and words they used to talk about something relevant to their own lives.

3.2. Allegra's Foundations class

In Allegra's morning Foundations class, the MALP model was implemented with Bhutanese, Burmese and Iraqi refugee students who scored at a 0-1 SPL/Beginning ESOL literacy, with most of the students scoring under 200 on the Best Plus. While the class size varies it is one of the larger classes at GPLC with 15-20 students regularly. Most have very limited or no experience with formal education. When these students enter the class they range from no ability in English to minimum functioning skills, understanding isolated words to a limited number of simple learned phrases. It can be difficult to communicate with students at this level. This fact can skew the class towards being more teacher-centered and less MALP-like. Given that students with more oral language facility have more success with literacy (see Cloud, Genesee, & Hamayan 2009), this class focusses primarily on oral communication, improving students' ability around listening and speaking before tackling reading and writing. The class is based strongly in routine, following a logical, progressive sequence with a good deal of recycling of concepts. Every day starts with a beginning routine that encompasses small talk and social etiquette. We work with simple language chunks such as *How are you? Where are you from? How's the weather?* As the MALP implementation began, Allegra looked at ways to link oral transmission with the written word and pragmatic tasks with academic tasks.

In order to progress from the basic *How are you? Good, thanks. And you? /Good, thanks.*, the teacher began to think of ways to help students express more of their genuine feelings. This would help with interconnectedness in and outside of the classroom. Based on what she knew about the students' lives she narrowed down a large feelings list to 10 feelings on which to focus: *happy, sad, tired, hungry, thirsty, relaxed, angry, confused, excited, bored*. With the aim of initially introducing the students to these feelings in English, time was spent with color photos of people vividly expressing these feelings. The photos showed people of different ages and ethnicities. Once students mastered the color photos, handouts with the same photos were printed in black and white. Students began expressing these feelings as they related to them, and it became part of the beginning routine, a check-in to get a better read on how the students were doing on a daily basis.

To help expand the Feelings activity Allegra decided to design a project that would show current students' comprehension of the activity, solidify a routine, and welcome new students given that the class, like all classes at GPLC, is open entry / open exit. With posters, markers, and magazines, the students began creating feelings posters to be hung on the classroom walls. The teacher wrote the feeling word on the poster, and students began looking through magazines to find pictures that illustrated these feelings. They worked in groups, cut out pictures and glued them around the word. They then visited each other's groups to see what everyone had created. Finally the posters were hung around the classroom where everyone could see them.

Together these activities constituted a MALP project. Project-based learning views instruction as the development of knowledge and skills in service of a culminating student product that demonstrates mastery (DeCapua & Marshall, 2011: 61). Project-based learning is ideal for integrating MALP into classes for struggling L2 learners. As described by DeCapua & Marshall (2011: 84), it: "encourages immediate relevance, allows for differentiation, supports group work while requiring individual accountability, easily integrates oral transmission and print, provides a framework for introducing, practicing, and recycling language, content, and ways of thinking." In this case the Feelings posters project was immediately relevant because students often indicated that they wanted to express their feelings to their teachers and each other. They were able to share important personal information and have a deeper relationship with each other. Students developed and maintained interconnectedness as they were able to express their feelings more freely and confidently and also understand each other's feeling. For example, one day a student pointed to the 'angry' poster and said "I'm angry." Another student responded to this student, saying "Why?" and the first student replied "Bus late." True communication was happening. The posters helped move the class away from being teacher-centered. It gave the students the ability to have a conversation without teacher prompts. In terms of shared and individual responsibility, students participated by choosing their own photos but then deciding as a group if they fit the emotion.

There was also a blend of oral transmission with print during the lesson and afterwards. While the teacher wrote the Feelings words on the posters, students then talked about them as they looked for pictures; some students wrote the Feeling words in their notebooks and later would review them while looking at the posters. When new students started class, current students would point out the posters and talk about them. Students participated in academic ways of thinking by categorizing, sorting, and choosing the best pictures. They did this with familiar language and content already reviewed in class. The posters

continue to hang on the classroom walls helping with integration of new students and communication of true feelings.



Figure 4: A student-created feelings poster, 'Hungry', hanging in Allegra's foundations class.

3.3. Katie's family literacy class

At the Families for Learning Family Literacy site, Katie implemented the model with two very large (19 families total, with 17 individual children) multi-level classes. Her students (mainly young mothers and their children) are from Burma, Bhutan, Tanzania, Democratic Republic of Congo, Iraq and Mexico. Their scores ranged from 2 to 5 SPL levels on the Best Plus test. The families and teacher worked together to plan, organize, create, and hang a 5 by 9 foot long mural on their site's wall. The mural project was developed as a result of students expressing a desire to decorate the site.

The adult learners discussed and developed the design with little input from their instructor. The mural depicts a large oak tree, the national tree of the United States, with flowers representing the student families' countries of origin. The oak tree has construction paper leaves that families colored together, using designs of their choosing. The mural is bordered by national flags of all the families' cultures of origin, along with the American flag. The flags alternate with handprints of children from the site.



Figure 5: *The student-created mural hanging in the Families for learning site.*

The project's content and subject matter were selected because they had immediate relevancy to the students. The goal of the project was for the mural to decorate the space where families have class. The symbols chosen for the mural were also immediately relevant since they represent the students' countries of birth. The mural was largely a collaborative process with students working together on planning and sketching, painting the tree, helping the children do their handprints, and finally assembling and hanging the mural itself. Such collaboration maintained the strong interconnectedness of working together that many LESLLA families prefer. The collaboration incorporated shared responsibility, but there was individual responsibility also, since individual components like the leaves, flowers, and flags were done by each particular family. The project was also accessible in content. Though the students may never have made a mural before, many of these adult learners have experience in fabric arts. Thus the process of planning and creating something decorative made of different component pieces was not new.

After the mural project was completed, the class reflected on and summarized the process of creating it through a series of literacy activities. Like the actual project, the literacy activities followed the model in their planning and implementation as well. A group LEA text was created in each of the two classes. The students produced group reflections on the mural (shared responsibility) as well as individual ones (individual accountability) in which learners described their personal contributions. These two student-created texts were used as the basis for literacy lessons and reading comprehension tasks done in class. The

literacy-based tasks (written word) were scaffolded through oral interaction as the language and content in these documents had already been orally reviewed before and during the creation of the mural. Using these texts as models, many learners then composed their own individual texts summarizing what they had done with their children to contribute to the mural. When the texts were finished, two copies of each story were printed. One was laminated and given to the writer; the other became part of a book documenting the project. Writing individual summaries gave learners an opportunity to focus on academic, decontextualized tasks like summarizing, writing, and revising.

The finished mural is now hanging up at the site next to the two LEAs reflecting on it; it makes the whole room look more friendly, personalized, and family-centered, creating a more MALP learning environment overall.

4. Successes and challenges

As we shifted our instructional model in these classes, successes and challenges presented themselves readily. While the successes can be difficult to quantify by looking at class data, we are able to address them here qualitatively.

Implementing the model was extremely successful in that it kept the teachers focused on making lesson plans that were immediately relevant, less teacher-centered, and combined shared and individual responsibility as well as oral and written components. In particular, the MALP checklist helped to create more successful lessons as we were accountable for making sure each lesson accepted student conditions for learning, combined LESLLA as well as Western-style learning processes while beginning to introduce students to decontextualized classroom tasks.

We were also able to develop greater continuity from lesson to lesson as well as between different classes. It encouraged us to be more reflective about where we've been and where we're going in terms of projects and lessons, having us constantly referring back to the MALP checklist to guide our thinking. Because multiple teachers worked on the implementation, we were also able to think more about how to transition students from one class into the next.

We found that focusing on using oral transmission to scaffold reading and writing skills helped with building student confidence, and that having students take more responsibility in the classroom and help create their own materials generated a sense of pride and ownership of their class as well.

Students developed even stronger bonds with each other through working together on the projects. Many students learned that they shared a lot in common and asked each other further questions about their lives outside class.

For instance, in Sara's Bridge class two students, one from Iran and one from Bhutan, realized that they shared the same neighborhood, they started planning bus trips to school together and also walking together in their neighborhood, pointing out good places to shop.

The challenges that continue to present themselves are in the form of erratic attendance due to family issues and extreme weather, the necessary but, at times, daunting and distracting open entry/open exit policy, students leaving suddenly for full-time jobs, and some students giving up prematurely because they don't see progress happening fast enough. We are continuing to try and address these challenges by restructuring class levels, implementing MALP across these levels, encouraging interconnectedness, incorporating relevant content, and experimenting with flipped learning in hopes that it will be easier for students to orient and re-orient to the class.

5. Next steps and conclusion

As we move forward, we continue to use the model to plan more ways to utilize it in the classroom. We frequently refer back to the checklist to guide our thinking about how to structure student-lead projects and the activities leading up to them that best transition students into successful participation in the classroom and help them master new content and vocabulary.

We will continue to work together with Drs. Marshall and DeCapua to provide feedback both ways. We'll discuss both what in the model we have successes and difficulty with, and what the model does and doesn't address in our classrooms. The researchers will provide us with more feedback on how better to use the model, as well as help us generate new ideas for structuring and organizing our classes.

In terms of future directions, we plan to train new ESL instructors at GPLC in the model in order to have consistency across classes. By training these instructors in MALP, we hope to help smooth the transition into working with students with more limited educational backgrounds and ease both teacher and student frustration since our new instructors are often unfamiliar with working with LESLLA students.

Innovation and new ways of thinking about instruction are essential elements to working with LESLLA students. It is important for researchers and practitioners to continue to work together in meaningful ways to support students and one another. To this end, we have begun discussing, presenting, and publishing our experiences working together with Drs. DeCapua and Marshall while using the MALP model in our classrooms. This article marks the

first effort towards that end, but we hope to continue such work by making publishable, ready-to-use classroom materials to share with other instructors and volunteers looking for more effective ways of engaging with LESLLA students.

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Notes

- 1 MALP® and Mutually Adaptive Learning Paradigm® are registered trademarks of MALP, LLC. For terms and conditions of use, contact information@malpeducation.com.
- 2 The BEST Plus assessment was created by the Center for Applied Linguistics, and more information can be found at: <http://www.cal.org/aea/bestplus/index.html>.

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Appendix

MALP[®] Teacher Planning Checklist

A. Accept Conditions for Learning
A1. I am making this lesson/project immediately relevant to my students.
A2. I am helping students develop and maintain interconnectedness.
B. Combine Processes for Learning
B1. I am incorporating both shared responsibility and individual accountability.
B2. I am scaffolding the written word through oral interaction.
C. Focus on New Activities for Learning
C1. I am focusing on tasks requiring academic ways of thinking.
C2. I am making these tasks accessible to my students with familiar language and content.

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 Breaking New Ground: Teaching Students with Limited or Interrupted Formal Education in U.S. Secondary Schools.

THE RED BOOK: A ROLE-BASED PORTFOLIO FOR NON-LITERATE IMMIGRANT LANGUAGE LEARNERS

Annemarie Nuwenhoud, Impuls and University of Amsterdam

Abstract

The Red Book is a portfolio that shows the development of LESLLA-learners. It is also used as teaching material. And thirdly, it can serve as an exam portfolio. The content of the Red Book is based on the roles that the students have in everyday life. They make it themselves, by drawing, colouring, pasting pictures and writing words in their Red Book. This turned out to be empowering for LESLLA learners. This article describes the setup and use of the Red Book portfolio in the former adult literacy program of a school in Amsterdam, The Netherlands. The Red Book portfolio can be applied in other adult literacy projects and classroom contexts as well. Some suggestions for the use of the Red Book portfolio in other contexts are being made, as well as a few recommendations for research.

Keywords: portfolio, LESLLA learners, empowerment, drawing and literacy, creative expression and literacy.

1. Introduction

In 2011, I taught a class of non-literate immigrant women with little to no experience with formal education. The majority of the women in my class had been living in the Netherlands for over 10 years, yet they spoke and understood very little Dutch, below CEFR level A1 (Council of Europe 2001). Many of them led isolated and inactive lives and struggled with health issues such as migraine and obesity. They had low self-esteem and were ashamed of their lack of education. We started to work on the themes closest to their own world: my family, my house, my street. At a later stage we worked on themes that were based on the roles the students had in daily life, such as a patient and a mother. I developed a portfolio that was role-based and tailor-made to their needs:

- empowerment,
- practical language learning and literacy,
- a visual exam portfolio that would exempt them from the obligatory Dutch Integration Exam.

I found large, red sketchbooks with thick drawing paper. They were solid enough for our students. Every lesson, the women filled their sketchbook with colourful drawings, photographs and pictures about the theme of the lesson. The students called this sketchbook '*het Rode Boek*', the Red Book. Working in the Red Book helped them to process and memorise the curriculum. They were very proud of the result. At the oral exam at the end of the year, they could talk surprisingly well about what they had learned, because they had their Red Book portfolio to look at together with the examiner. Just looking at their own drawings and pictures made them remember and gave them confidence to talk about everything they had learned. The Red Book showed the development of the students in their year at school. It was also used as teaching tool. We looked at the book together and read in it, to repeat and reflect on what we had learned so far. And at last, it was being used as the exam portfolio.

In this article, I will describe the set up and use of the Red Book portfolio in our adult literacy program. The Red Book portfolio can be applied in other adult literacy projects and classroom contexts as well. Some suggestions for the use of the Red Book portfolio in other contexts are being made. And finally, I will offer a few recommendations for research.

2. Background and context

The adult literacy program in Amsterdam

The Netherlands used to have a government-sponsored adult literacy program that enabled non-literate DSL (Dutch as a Second Language) learners to go to school for up to five years. However, the results were disappointing; in Amsterdam, over 60% of the students did not reach full literacy. Their proficiency level remained insufficient to continue their education in the official Dutch integration program. The department of Education and Integration of the Amsterdam City Council was confronted with budget cutbacks at the same time (Dalderop 2010).

Therefore, the department of Education and Integration of the City Council organised an expert meeting in 2010. They collaborated with centres for LESLLA education in Amsterdam and LESLLA experts in the Netherlands, and developed a new literacy program. This new program was much shorter than the previous one and provided a tailor-made literacy course for different types of learners. Students were tested on their learning abilities and proficiency level for reading, writing and the oral skills. After the first three months of classes, the school assessed the progress of the student, and gave a final advice on which program the student could follow.

Fast learners were enabled to follow up to two and a half years of schooling. The focus of this program was on literacy and (parts of) the official Dutch Integration Exam. Some very talented students managed to pass the complete Integration Exam on CEFR level A2 within a year and a half, but most of them needed the extra year to pass the most difficult parts of this exam.¹

The participation program for 'slow' learners²

For a large group of learners, it was found to be unrealistic that they could pass the Integration Exam within one and a half year or two and a half years, if ever. These learners, who made a very modest progress in acquiring both the oral skills and reading and writing, were offered a different kind of literacy program. They went to school for one year, where the focus lied on social participation and practical language and literacy for daily life. This program was called the 'participation program'. Students went to class twice a week. Once a week they engaged in another activity, such as sports, field trips and practical assignments, computer lessons or volunteer work (Dalderop 2010). This article focuses on this particular group of 'slow' learners within the Amsterdam literacy project.

Type of learners

The students in my class had no first language literacy. They were mothers and housewives with an average age of 45. Most had three to seven children. The majority of the students struggled with health problems that were related to an inactive lifestyle, such as diabetes, obesity, chronic fatigue and pain, or high blood pressure. Students had been living in the Netherlands for quite a while, with an average of ten years, some even up to 25 years. They had a low level of speaking and understanding Dutch (below A1 of the CEFR). Many led isolated lives, within their own closed community. Before the start of the classes, the department of Education and Integration of the Amsterdam City Council tested the students on their learning ability. Based on the results of the test and the profile of the students, it was expected that these students would not reach full literacy within a year. Therefore, they were placed in the participation program.

Goal of the participation program

The goal of the participation program was to increase the social participation and self-supportiveness of the students. The program aimed to improve the level and the frequency of speaking and understanding Dutch in daily life. The literacy classes were focused on improving basic reading and writing skills for daily life use, such as:

- understanding an appointment card for the doctor;
- recognizing their name and address on the mail;

- correctly copying their full name and date of birth on forms;
- recognizing the names and numbers of the buses and trams and on street signs.

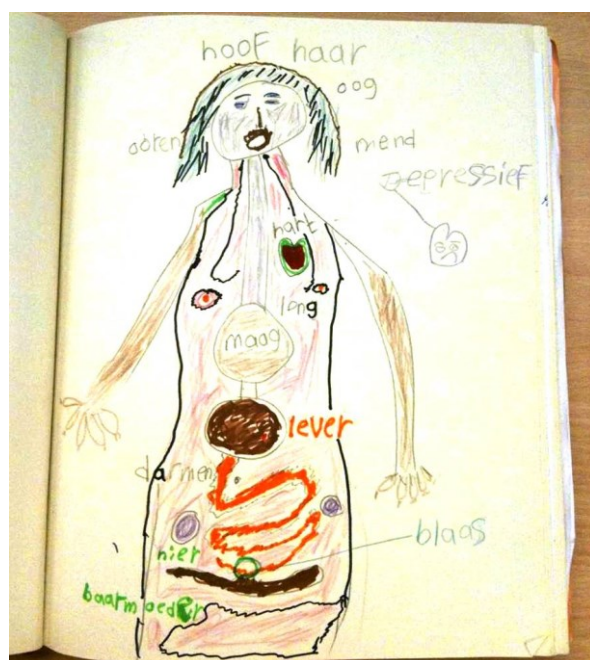
The activities outside of the school played an important role in achieving these goals.

Content of the program: bottom-up or top-down?

The Amsterdam City Council required that students would engage in some form of participation. The idea was that you learn more Dutch if you use it and hear it around you. Volunteer work was considered to be an important aspect of the program. Also, the principle of reciprocity played a role here. If you get a government sponsored literacy program for free, you should give something back to society in return, such as helping out in the community centre or at a home for the elderly. Students with a job were exempted from this duty.

However, the students in my class were still a long way from doing volunteer work. The students were all housewives and most of them had no immediate ambition to work outside the home. They primarily wanted to be in a classroom with a book, a pencil and a teacher. The value and usefulness of doing volunteer work were not always recognised. They did want to become more active. Instead of doing volunteer work, they were allowed to choose activities such as sports and computer classes. Together with the group, they made field trips. They also did assignments outside the classroom in small groups.

When asked about their learning goals, students made clear that they longed for more self-supportiveness and independence from their husbands and children. They wanted to be able to talk to their doctor themselves and to understand what their child's teacher told them. Figure 1, for example, shows a drawing of the female body with organs, that one of the students made in her Red Book. She and her classmates wanted to know where the organs in the body are situated and what they are called in Dutch. The subject of depression came to discussion in the same lesson. The students described it as a form of illness 'in the head'. That is why this student also wrote the word 'depressed' at the right side of the head, accompanied by small drawing of a sad face (see Figure 1).



Translation of the words written in Figure 1

Hoof(d)	Head
Haar	Hair
Oog	Eye
Oren	Ears
Mond	Mouth
Depressief	Depressed
Hart	Heart
Long	Lung
Maag	Stomach
Lever	Liver
Darmen	Bowel
Nier	Kidney
Blaas	Bladder
Baarmoeder	Uterus

Figure 1: Drawing by one of the students on the theme *my health, learning the organs*

The roles of our learners in everyday life

The content of the Red Book portfolio is based on the roles that the students have in everyday life. The majority of the women in this class lived in their own Moroccan or Turkish community and had little contact with Dutch speaking citizens. Table 1 gives an overview of the roles of the students and the language they needed in each specific role.

As shown in Table 1, the students did not need the Dutch language in all of their roles. They did their groceries in Turkish and Moroccan supermarkets. Their social contacts were mainly family members and neighbours from the same country. They spoke their own language to their husbands and children. Only in the roles of 'patient' and 'mother' the students really needed to speak and understand the Dutch language.

Table 1: *Overview of the social roles and the language needed in a specific role*

Role	Language needed
Housewife	L1 Example: - Doing groceries
Neighbour	L1 and Dutch Examples: - Introducing yourself to a new neighbour - Small talk with the neighbours: "How are you?", about the weather, etc. - Asking for help or helping the neighbours
Patient	Dutch Examples: - Making an appointment - Communicating with the doctor - Knowing about the human body, healthy lifestyle, and the Dutch healthcare system
Mother	L1 and Dutch Examples: - Interacting with children: playing, singing, talking - Understanding written communication with the school - Knowing about the Dutch education system - Communicating with the teacher of the children

Need for teaching materials and another literacy portfolio

In the Netherlands, we have good teaching materials and a portfolio for adult literacy learning. The portfolio is based on the framework for literacy in DSL (Stockmann 2006). However, in this relatively short and low-budget participation program, the goal was no longer to reach full literacy. Moreover, many of the learners were not likely to reach full literacy. When tested, they would not even reach the lowest level of the framework, level Alfa A. Students in the participation program did make progress, but the results were too small to be measured by the existing framework. It was necessary to find another form of showing the result of the program at the exam. The goal of the program was to increase the social participation and self-supportiveness of the students. Students would still work on the development of their reading and writing skills, but this was no longer the main goal of the program. Therefore, the need arose for tailor-made teaching materials for practical, daily life language and literacy.

Experience has learned that non-literate learners need sturdy teaching materials. In our program, teachers were prone to produce all kinds of stencils in folders about the themes we worked on. Although these materials were adequate, they would often get lost or damaged. Students at this level were not used to handle folders with loose papers. I found large, red sketchbooks with thick drawing paper. They were solid enough for our students and they could be filled with everything that we needed.

At the same time, we were looking for visual teaching materials for empowerment. The students in the participation program often had low self-esteem. We needed a visual and tailor-made portfolio to show the progress of our learners. There was also the demand from the City Council for a portfolio for the final oral exam at the end of the year.

3. Functions and use of the Red Book portfolio

One of the advantages of working with a portfolio in adult literacy education is that it stimulates learner autonomy. LESLLA learners often do not have this autonomy yet. On top of that, LESLLA students in one class are usually very different from each other in background, language needs and aptitude. Therefore, the teacher has to differentiate. The learner, on his turn, has to become aware of his own learning needs and responsible for his own learning. The use of a portfolio facilitates both class differentiation and learner autonomy (see Feldmeier this volume).

The use of a portfolio in DSL education is widespread in the Netherlands. Along with the development of the Common European Framework of Reference for Languages (CEFR), a portfolio for second language learners was made. Soon, a Dutch adaptation of this European portfolio followed. However, the portfolio for DSL learners proved to be too difficult and too abstract for LESLLA learners. (Janssen – Van Dielen 2006). So a new portfolio especially for literacy in DSL was developed (Stockmann 2006). This portfolio has both a pedagogic-didactic function and a reporting function. Adult learners gain insight in what they are learning and in what they want to learn. This makes them more independent from the education they receive. Also, working on the portfolio invites the involvement of the outside world into education. Learners collect evidence in the form of samples of their work which show what they can do and what they have learned. This is the reporting function of the portfolio. Working with a portfolio with LESLLA learners is only effective when it is entirely tailored to the needs of the learner (ibid.)

In the participation program, the Red Book portfolio has three functions. First, it shows the progress of the student throughout the year (developmental portfolio). Second, it is used as teaching material (teaching portfolio). Third, the Red Book portfolio has a reporting function: it plays an important role at the oral examination at the end of the year (exam portfolio).

Development portfolio

The Red Book portfolio shows the progress of the learner in several respects:

- knowledge of themes
- vocabulary
- writing skills
- self-esteem and empowerment

As mentioned before, LESLLA learners often struggle with low self-esteem and feelings of shame about their poor literacy. It makes it even harder to go through the slow process of becoming literate as an adult. Therefore, empowerment of the learner is an important goal in the classroom. In the Red Book portfolio, learners make drawings and write words and sentences (if possible) to become aware of who they are, what is important to them and what they are proud of. Below, five photographs of pages from the Red Book that are related to empowerment are shown.

Figure 2 shows a self-portrait of one of the students. Making a self-portrait was an empowering thing to do. I made them aware of who they were. Figure 3 shows the drawing a student made of her family. It shows her house and garden, with her eight children (four girls in red and four boys in green). In the centre, we see her husband. She drew herself on the right side. The family had great value for the students and it made them proud to picture them in their portfolio. In Figure 4 we see a list that a student wrote about who she is. This list was the result of a group conversation in class about their qualities. The list was written down on the blackboard with help of the teacher, and then copied in the Red Book. The drawing and text in Figure 5 is about what this student is good at and proud of. This page was also the result of a group conversation. The students were proud to be good housewives and mothers.

After discovering what they were good at, the students thought about what they wanted to become better at. Students set their own learning goals, such as writing their address or making an appointment with the doctor. Throughout the school year, it proved to be empowering for the students to make their own book. They were very proud of having their personal book and enjoyed working in it.

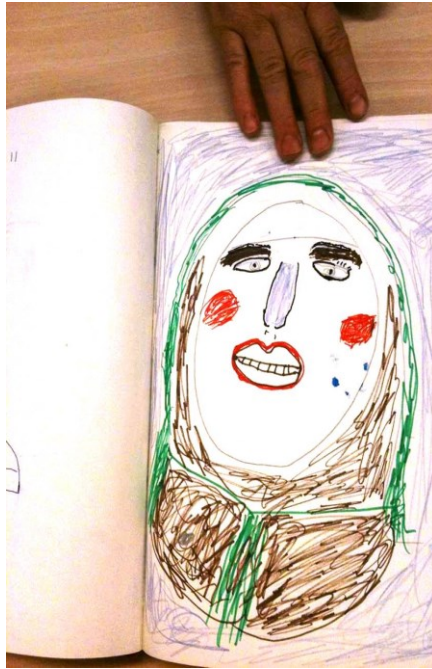
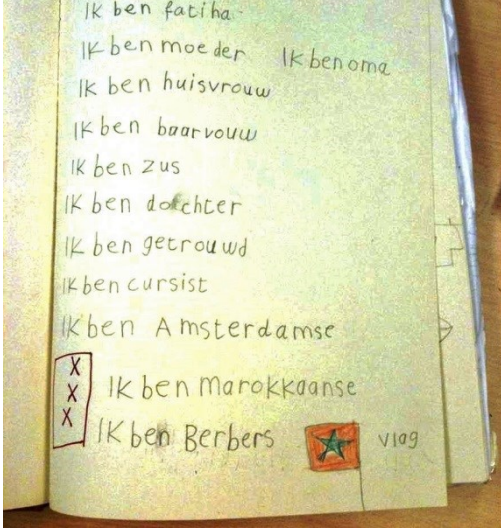


Figure 2: *Empowerment with the Red Book portfolio: This is me (self-portrait)*



Figure 3: *Empowerment with the Red Book portfolio: This is my family*



Ik ben Fatiha	I am Fatiha
Ik ben moeder	I am a mother
Ik ben oma	I am a grandmother
Ik ben huisvrouw	I am a housewife
Ik ben buurvrouw	I am a neighbour
Ik ben zus	I am a sister
Ik ben dochter	I am a daughter
Ik ben getrouwd	I am married
Ik ben cursist	I am a student
Ik ben Amsterdamse	I am Amsterdammer
Ik ben Marokkaanse	I am Moroccan
Ik ben Berbers	I am Berber

Figure 4: Empowerment with the Red Book portfolio: Who am I?

Teaching portfolio

The Red Book portfolio was also used as teaching material. When we worked on a theme with the group, the students made a page in their Red Book about it at the end of the class. It was their preference to work in the Red Book together, as a group. Every student made her own page, often with drawings and a summary of what had been discussed in the lesson. Some students wanted to copy the drawing the teacher made on the whiteboard, others made their own drawing. By use of the Red Book, students trained several skills both in class and at home, such as:

- memory,
- vocabulary,
- the use of a book for looking up information.



Maandag 24 januari 2011 Monday,
January 24,
2011

Les 7 Lesson 7

Ik ben een goede I am a good
huisvrouw housewife

Trots Proud

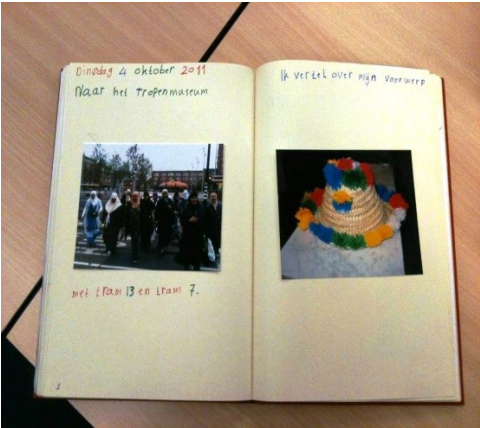
Netjes Tidy, decent

Schoon Clean

€ Zuinig € € Economical €

Figure 5: Empowerment with the Red Book portfolio: What am I good at?

With this level of students, repetition of the themes and the vocabulary was essential. Students got tasks with the Red Book, alone or in small groups and presented the results to the class. An example of a task with the Red Book portfolio is found in Figure 6. This student previously made a page about a field trip to a museum. The task was to find back the page about the field trip and tell the group what we had done that day. Figure 7 shows another example of a task. This student had previously made a plan of her neighbourhood. It shows her street, her house, the bus lines and three important buildings in front of her house (the mosque, the police station and the supermarket). The task was to find this page in her book and tell the group about it.



	Translation
Dinsdag 4 oktober 2011	Tuesday, October 4, 2011
Naar het Tropenmuseum	To the museum of the Tropics
Met tram 13 en tram 7	With tram 13 and tram 17
Ik vertel over mijn voorwerp	I tell about my object

Figure 6: Find 'October 4' and tell the group what we have done that day.

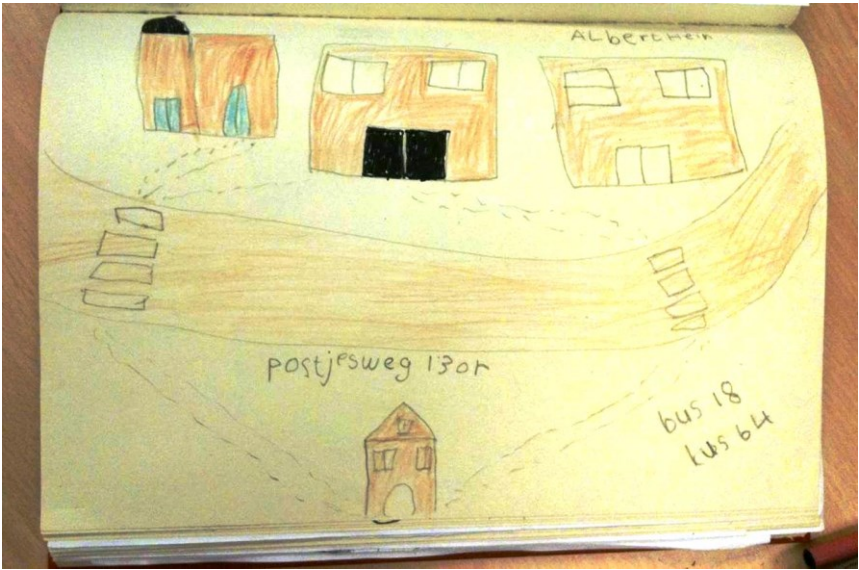


Figure 7: Task: Find the page with your street and tell the group about it.

The Red Book portfolio as an exam portfolio

All students in the participation program had to make an exam portfolio. The oral exam at the end of the year was about the exam portfolio. Depending on the proficiency level of the students, the oral exam was taken at level A1 or A2. The

examining board consisted of two people: a teacher and a certified examiner. The exam took about 30 minutes. After an informal introduction, the student was asked to tell the examiners about three out of the ten situations in which the candidate had communicated in Dutch. Next, the student could tell about other things (s)he had learned.

Examination of slow learning, non-literate students used to be problematic. The previous exam measured if full literacy was reached. Since this was not the case with 60 % of the students, the impression rose that 60 % of the students had failed. This was very disappointing and discouraging for both the students, the teachers, the school and the City Council. Students were unable to show that they had actually learned many things, but at their own modest level and at their own pace.

Also, LESLLA learners often feel intimidated and shy in a formal exam setting. This prevents them from showing their full potential. Moreover, the topics discussed at the oral exam were often too abstract without visual support. The Red Book portfolio gave students the visual support they needed. At the oral exam, they could talk surprisingly well about everything they had learned, because they had their Red Book portfolio to look at together with the examiner. Just looking at their own drawings and pictures, made them remember and confident to talk about everything they had learned.

In consultation with the Amsterdam City Council and the other three schools that carried out the literacy program, the minimum requirements of the exam portfolio were decided. We also developed a checklist for the teachers and a simple standard form for the portfolio that the students had to fill out, alone or with help. The minimum requirements of the exam portfolio were:

- The exam portfolio contained at least ten forms that show evidence of the student using the Dutch language in a practical situation. For example:
 - I have talked Dutch with the doctor;
 - I have talked Dutch with the teacher of my child;
 - I have listened to my neighbour who talked Dutch;
 - I have written my name and address on a form.
- The exam portfolio contained at least six forms that show evidence of the student speaking Dutch (in the other situations the student had been listening, writing or reading);
- The conversations have been held in at least four different domains, for example:
 - My health
 - My children
 - Public transport

- Public institutions
- My neighbourhood
- My education.

At our school, I integrated this exam portfolio in the Red Book. A separate folder with loose forms would probably have gotten lost or damaged and would have had less meaning to the students. Towards the end of the year, the student, with help of the teacher, chose ten pages in the Red Book portfolio that (s)he wanted to talk about at the exam. The teacher made sure that they fitted the criteria of the portfolio. The checklist and the official forms were added. The examining board received a copy of the relevant pages. This way, the student kept the Red Book portfolio and brought it to the exam. After a year, the Red Book portfolio had become an important personal document the students were proud of.

4. Results and application of the Red Book portfolio in other settings

I developed the Red Book portfolio for a class of non-literate women in 2011. During that year, I also implemented it in other classes at the same school. Between January 2011 and December 2014, the Red Book portfolio has been used in about fifteen groups at the literacy project of the Impuls Foundation³. In this period, over 200 students took part in the participation program of this school in the West of Amsterdam.

These 200 students passed their oral exam at level A1 and sometimes at level A2. This oral exam exempted them from the obligatory Dutch Integration Exam. With the support of their Red Book portfolio, the students now enjoyed taking the exam, while taking an exam used to be a stressful and embarrassing experience for many of them. Students were better able to show the examiners what they had learned. When a student saw a page with cut outs of healthy foods for example, it made them remember that a dietician had visited the class. The student could explain which foods are healthy, and which are unhealthy. Without this visual support, having a conversation at level A1 about healthy lifestyle, would probably have been too abstract.

Using the Red Book at the oral exam actively and enthusiastically, showed that the students had grasped the value and use of a book: it contains information that matters. You can look it up when you want to know more about it or when you need to talk about it. Even when you are not likely to ever reach full literacy.

The application of the Red Book portfolio in other settings

The Red Book portfolio can be applied in other settings than the program that is described in this article. It could be valuable for the LESLLA learner that by and large fits the following description. The LESLLA learner:

- is an emergent learner;
- has little or no first language literacy;
- is a slow learner for whom existing exams and portfolios are too difficult;
- has very little reading and writing skills in the L2 (below level 'Alfa A');
- needs to build basic L2 vocabulary;
- needs visual support to learn words;
- needs to become familiar with the use and function of books.

Choice of the content

The content of the Red Book portfolio should always be based on the roles that the students have in daily life. In my class, the most relevant roles were mother and patient. In another class, students were employees or looking for a job. There were also students who had just arrived in The Netherlands and wanted to know how to get around in Amsterdam. Often, the students in one class have different roles. The Red Book portfolio is suitable for differentiation: not everyone in class had to do the same thing on the same proficiency level.

The 'arts' that are being used also should be adapted to the talents and affinity of the learners. The women in the participation program were enthusiastic about drawing, colouring, cutting and pasting. Even though they considered their own drawings childish and silly, they had fun when making them and enjoyed showing them at the exam. Drawing and colouring is however not suitable for every type of student. Another class with male students did not like it at all. They found it embarrassing to make drawings. They were more comfortable with pasting photographs, timetables, forms and leaflets in their Red Book portfolio.

5. Recommendations for research

Drawing and literacy

When working with the Red Book portfolio, I noticed that there was a relationship between the literacy level and the drawings the students made. For students who had never been to school before, it was the first time they held a pencil in their hands. They drew very primitive figures of puppets, comparable

to the drawings of a three year old child. As their literacy and fine motor skills grew, their drawing skills evolved as well. Students who could already write some letters and read a few monosyllabic words, made more detailed and refined drawings. Their fine motor skills were already more developed.

It seemed that making drawings about the themes in the Red Book, helped the students with more than just their fine motor skills. I had the impression it helped them to understand the function of written language. The drawings in the Red Book referred to things that really existed in their own life: my family, my house, my street. And so did the words that accompanied the drawings. The book they made, contained information about real life. Students who made drawings in their Red Book, seemed to be more aware of this notion than students who hadn't.

One could also imagine how the brain makes more connections when literacy is combined with drawing. It would be interesting to investigate the precise effect of drawing on the development of literacy of adult learners.

Creative expression, motivation and empowerment

Making a book with drawings, pictures and photographs was a form of creative expression that empowered and motivated our students. For the first time in their lives, they made their own book. The book was about them and they liked what was in it. They treated their Red Book as a valuable object.

Teachers often report about the surprising enthusiasm of their LESLLA learners about creative expression. Projects with creative writing (Drijkoningen & Borgesius 2014), making a book or a film, seem to have a very positive effect on the motivation and empowerment of LESLLA learners. It could be interesting to investigate the effect creative expression on the motivation and empowerment of adult literacy learners.

Notes

- 1 A1 and A2 are proficiency levels described in the Common European Framework of Reference for languages (CEFR) (Council of Europe 2001).
- 2 Note that the term 'slow learner' in the Netherlands is a neutral label that refers to the fact that a certain group of LESLLA learners makes progress in literacy and language learning at a very modest pace. In the Dutch context the term 'slow learner' is not a sensitive term.
- 3 Impuls is a foundation for child care and social work that operates in the western neighbourhoods of Amsterdam. By commission of the City Council of Amsterdam, Impuls carried out the adult literacy program in these neighbourhoods from August 2010 until January 2015.

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“FINGERS, EYES AND EARS TO WORDS”: LESLLA TEACHERS LEARN FROM DYSLEXIA EDUCATORS

Patsy Vinogradov, Hamline University

Abstract

In LESLLA classrooms all over the world, teachers focus much attention on reading instruction. Their students are beginning readers, tackling this challenging task in a new language. In the absence of a wide research base for LESLLA, teachers turn to related fields for guidance on the complexities of teaching struggling readers. In this study, several LESLLA teachers explored the field of dyslexia education, searching for insights to improve their literacy instruction. Both LESLLA learners and dyslexic children are grappling with reading an alphabetic print language. Both groups of students work on building phonological skills, recognizing word patterns, and applying reading strategies to more complicated texts. While they struggle with reading for different reasons, LESLLA learners may benefit from the multisensory, systematic, and direct approach to reading used with dyslexic children. In the following case, several LESLLA teachers examined dyslexia education through a facilitated study circle and found a number of classroom practices worthy of applying to their learners.

Keywords: LESLLA, study circle, professional development, dyslexia

1. Introduction

Reading instruction is often center-stage in the LESLLA classroom. Low first-language literacy is a defining characteristic of LESLLA learners, and the challenges around acquiring the alphabetic principle and gaining even basic literacy in a second language are tremendous for LESLLA students. While teachers are well aware of the high level of literacy required to thrive in students' new communities, the LESLLA research base is still limited, and direct guidance for teaching LESLLA students to read is sparse. Some LESLLA educators have responded with innovation, reaching to related fields for insight, resources, and inspiration. One such example is a study of LESLLA teachers

Ineke van de Craats, Jeanne Kurvers, & Roeland van Hout (eds.)
Adult literacy, second language, and cognition

'crossing contexts' to improve their LESLLA teaching practice provided by Vinogradov (2013; 2015). Vinogradov brought LESLLA teachers into kindergarten, first, and second grade classrooms to investigate early literacy instruction for young children. From that study, an additional idea for LESLLA teacher-learning emerged: the knowledge and practice of teachers who work with dyslexic children. *What does the field of dyslexia education offer LESLLA teachers, both of whom work with struggling readers?* A group of LESLLA teachers in Minnesota, USA, decided to find out; this question is the basis of their inquiry. The following article shares the insights gained by reaching into the related field of dyslexia education to improve reading instruction for LESLLA learners.

2. Dyslexia and LESLLA: Why compare these two types of learners?

What exactly is dyslexia? The International Dyslexia Association provides this definition:

Dyslexia is a specific learning disability that is neurological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge. (International Dyslexia Association n.d.)

To paraphrase, students who are dyslexic have a great deal of difficulty learning to decode and recognize words in print, which in turn affects every other aspect of reading: fluency, comprehension, vocabulary, and the building of background knowledge. To be clear, dyslexia is not a result of low intelligence or poor instruction, but rather a result of impeded phonological processing. Dyslexia, at its core, is a *sound* issue, an auditory processing challenge. It makes decoding of print laborious at best, shaking students' interest in reading and interrupting their ability to easily access meaning from printed texts. One dyslexic child captures his feelings about reading: "I would rather clean the mold around the bathtub than read" (in Wolf 2007: 165).

LESLLA students, as shown in the limited but growing LESLLA research base, also encounter a great deal of trouble with phonological skills of reading

an alphabetic print language (Young-Scholten & Strom 2006). Acquiring the alphabetic principle, decoding, and gaining meaning from print are foundational to reading fluently, and yet those are especially challenging tasks for LESLLA learners (Kurvers, 2007; Young-Scholten & Strom 2006). As they did not acquire the abstract phonological skills related to alphabetic print literacy as children (such as segmentation, blending, and substitution of sounds and letters), LESLLA learners are now acquiring these skills as adults. To complicate matters further, they are learning to read in a language they do not yet speak well. However, as Shaywitz optimistically states, “There is no deadline or age limit for when a person can learn to read...adults face a serious challenge but one that can be met successfully” (2003: 288). The participants in the current inquiry share this optimism and were eager to learn more from dyslexia education to improve their LESLLA instruction.

To be clear, LESLLA learners are not dyslexic by definition, and the participants in this study made no such assumption. However, participants did notice that, as a group, LESLLA learners are struggling with reading in a number of similar ways to dyslexic children. Specifically, observations and conversations revealed ten main characteristics that many LESLLA students have in common with dyslexic learners, outlined in Figure 1. After articulating these commonalities and learning about the nature of instruction typical for dyslexic learners, it became clear to this study’s participants that there was much more to investigate and a great deal to learn from the field of reading disabilities that could enhance our work teaching reading of an alphabetic print language to LESLLA learners.

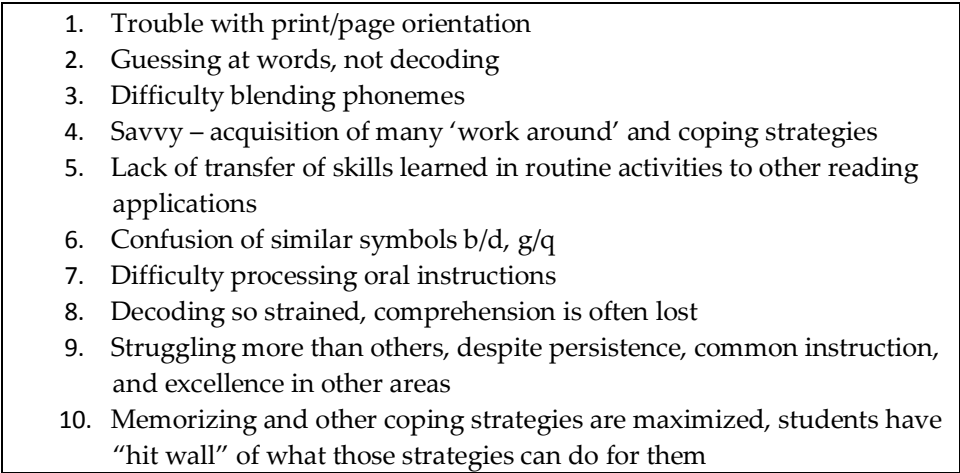
- 
1. Trouble with print/page orientation
 2. Guessing at words, not decoding
 3. Difficulty blending phonemes
 4. Savvy – acquisition of many ‘work around’ and coping strategies
 5. Lack of transfer of skills learned in routine activities to other reading applications
 6. Confusion of similar symbols b/d, g/q
 7. Difficulty processing oral instructions
 8. Decoding so strained, comprehension is often lost
 9. Struggling more than others, despite persistence, common instruction, and excellence in other areas
 10. Memorizing and other coping strategies are maximized, students have “hit wall” of what those strategies can do for them

Figure 1: *Commonalities among dyslexic learners and LESLLA learners*

A LESLLA teacher colleague had completed extensive training in working with dyslexic children, and together we¹ began to consider how to explore this connection further and what these common characteristics might mean for LESLLA, and for reading instruction in particular. Three additional LESLLA teachers joined us to form a study circle around these topics.

Our rationale for exploring dyslexia to inform our LESLLA work was a simple one:

- Both dyslexic learners and LESLLA learners appear to struggle with reading in similar ways.
- Dyslexia educators in our context (United States) know how to break down English reading into small, teachable parts using engaging, systematic, multisensory instruction.
- While English as a second language (ESL) teachers know a great deal about language development, many have not received specific training in reading instruction, particularly for emergent and struggling readers.
- There exists a rich resource of knowledge and pedagogy around teaching dyslexic children, one we can access and adapt for LESLLA classrooms.

In this article, our dyslexia study circle is summarized, as well as the main insights gained from crossing contexts via this professional learning activity.

3. Investigating dyslexia: A LESLLA teacher study circle as professional learning

To examine the overlap of our work and to glean wisdom for reading instruction of LESLLA learners from dyslexia education, four LESLLA teachers and the researcher formed a study circle in fall 2013. Study circles are small learning groups of practitioners who meet to discuss issues of relevance to their classroom practice. They are organized around a specific topic and represent professional learning in the form of collaborative inquiry (Yorks & Kasl 2002). Study circles generally meet for three to five sessions and are often guided by a facilitator. NCSALL (National Center for the Study of Adult Learning and Literacy) names three key elements to study circles: professional wisdom, research, and their application to practice (NSCALL 2006: 11). Prior to each session, participants read a selection of relevant research on the study circle topic, and they may have written or classroom-based reflection tasks to complete as well. During meetings, study circle participants actively discuss the readings and tasks and explore together how research can inform their

classroom practice. In the present study, our “dyslexia study circle,” as we called it, was created using the NCSALL guidelines, and readings and tasks were chosen to best serve teachers of LESLLA learners. Through collaborative inquiry, our aim was to reach out across contexts to this related field of dyslexia education to inform our work with adult ESL struggling readers.

Participants

The study circle participants were all women and all native speakers of English. All participants were practicing LESLLA teachers in programs at least partially funded by state adult basic education funds, and they all volunteered to participate in response to a personal invitation. Two LESLLA schools were represented, both located in a large Midwestern city in Minnesota, USA, and both schools were part of community-based organizations. Participants agreed not only to participate but to give ongoing feedback and reflection on their experiences with the study circle. The study circle was created and facilitated by me, the researcher, and my co-facilitator, Kristin Perry, the co-creator of this professional learning activity. Ms. Perry assisted in the design, planning, and delivering of the study circle. Her expertise in dyslexia education and Orton-Gillingham specifically was critical to this work (Orton-Gillingham n.d.). All participants were given continuing education units (CEUs) needed for state teacher re-licensure requirements, a small stipend, and also payment for substitute teachers as needed, all funded by a grant from the Commission on Adult Basic Education (COABE), a professional organization for adult educators in the United States (COABE n.d.). The study circle met five times for approximately three hours each meeting, spread over ten weeks. At least one-two weeks was allotted between each meeting to give participants adequate time to read, prepare for discussion, and complete assigned tasks.

Role of the researcher

As the co-creator of this professional learning activity and also the researcher, I had a dual role in this project. It should be noted that while I was the co-facilitator of the study circle, Ms. Perry nor I were in any way in a position of authority at the participants’ workplaces nor were we in any position to evaluate their teaching. Our study circle was a voluntary gathering of colleagues who wished to explore this topic together.

Data collection and analysis

As a professional learning activity in the form of a study circle, all data came directly from our work together. The research question was simple: *What will a group of LESLLA teachers glean from the field of dyslexia education to inform their work?*

All data was qualitative in nature. Data indicated what the participants were learning and the reported impact of this professional learning on their LESLLA teaching practice. Detailed notes were taken at our five study circle meetings, including our visits to a local school for dyslexic students. Participants completed a written reflection at the close of each meeting with open ended responses, and these writings were collected and compiled. An online discussion space was established, and participants posted questions, assignments, and comments throughout (and beyond) the ten week study circle to this website. Analysis occurred cyclically by the researcher and co-facilitator, and at times by the participants themselves as we reviewed all field notes and reflections and grouped common comments into themes and patterns to better understand our learning and the impact of the study circle. The data was all typed and reviewed immediately after collection, as recommended by Erickson (1986). All data was coded and analyzed for emerging themes. The notes and written reflections were used to both plan and improve the next meetings and also to understand what the participants were learning and applying to their LESLLA contexts.

3.1. Content of the dyslexia study circle

First, before commencing our study circle, we came together in spring 2013 to plan and articulate the purpose for this work. Three guiding questions emerged that grounded our collaborative inquiry, detailed in Figure 2. From here, Ms. Perry and I found readings, created outside tasks, and reached out to a local school for dyslexic children in order to design a comprehensive exploration of dyslexia education for these LESLLA teachers, but also one that was accessible to busy full-time teachers.

- | |
|--|
| <ol style="list-style-type: none"> 1. How are our low-literacy adult ESL learners' reading skills different from and similar to the skills of learners (typically native English speakers) receiving dyslexia/reading disability interventions? 2. What knowledge and practices used in K-12 (kindergarten – 12th grade schooling for children) dyslexia/reading disability instruction might have promise for LESLLA? 3. Of those practices identified as worthy of consideration for LESLLA learners, how would they first need to be adapted for our context? |
|--|

Figure 2: *Guiding Questions for our Study Circle*

To bring our readings and conversations to life and to better envision dyslexia education for young people, a local school for dyslexic children was located and contact was made to visit two times during our study circle. The school's Director of Curriculum and Instruction welcomed us to visit the elementary grades and alerted her staff to our visits. It should be noted that the Director also graciously spent time debriefing our visits with us and answered our questions about the classroom observations, reading instruction, and the school itself both in person and electronically. A visual representation of the study circle meetings is found in Figure 3.

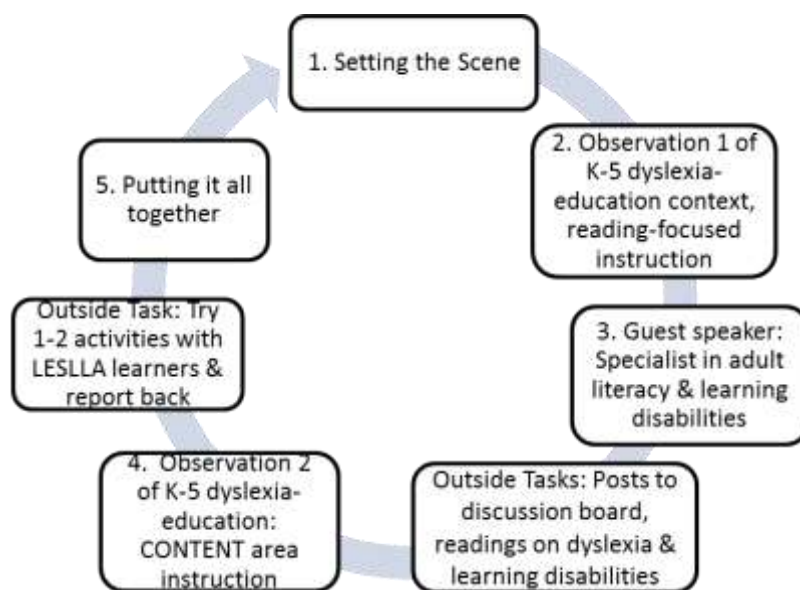


Figure 3: *Dyslexia study circle meetings overview*

Objectives were identified for each of the five meetings. Detailed below, these objectives framed our time together and shaped our professional learning. For each meeting, readings and additional tasks were assigned. A complete list of our readings can be found in the Appendix, and tasks ranged from posting to our online discussion space to choosing a dyslexia-education inspired activity and trying it out in the LESLLA classroom, followed by a reflection.

Meeting one:

- Articulate study circle format and the nature and purpose of our collaborative inquiry
- Calibrate our definitions of dyslexia, learning disability, reading difficulty, etc.

- Review main elements of reading struggles and possible overlaps and distinctions between LESLLA learners and dyslexic children
- Review main components of early literacy and its instruction for the typical reader (not dyslexic)

Meeting two:

- Observe in 2-3 classrooms during literacy-focused time with young struggling readers.
- Use observation protocol (created collaboratively) to guide our time in classrooms.

Meeting three:

- Identify characteristics of adults as struggling readers
- Identify assessments & tools used to diagnose dyslexia in adults.
- Identify interventions commonly used to teach literacy to adult dyslexic learners.
- Compare and contrast ways of assessing and teaching dyslexic *adults* and what we've learned about how *children* are served.
- Articulate the role of L1 instruction- how does serving limited English students affect the strategies, interventions, activities we've identified as useful for LESLLA? How to transform for our L2 learners?
- Ask an adult literacy and LD (learning disabilities) specialist our burning questions.

Meeting four:

- Observe instruction of a core subject matter class (social studies, science) with struggling readers.
- Identify ways that the young struggling readers are tackling difficult content-area reading, and ways the teachers are supporting them.
- Continue identifying 'essentials' of dyslexia instruction and how to make it applicable to LESLLA learners. *What is transferable? What isn't? Of what's transferable, what needs to happen first?*

Meeting five:

- Collaboratively identify the literacy-building practices from our dyslexia education exploration that seem most important for LESLLA students, and discuss why we believe so.
- Compile a list of 'rules of thumb' for transferring a practice from L1 dyslexia-education for children to our LESLLA classrooms. *(What's critical to remember about our students when considering a practice inspired by this new context?)*
- Consider Next Steps. What can this group offer to the field as a result of this experience?
- Complete a final reflection/evaluation about what we've learned from crossing into this new context.

Figure 4: *Dyslexia study circle meeting objectives*

3.2. Findings: What did the LESLLA teachers deem valuable from dyslexia education?

The study circle participants engaged actively with the readings, conversations, classroom observations, and the outside tasks assigned in our collaborative inquiry. Our online discussion board was a busy place of sharing and brainstorming, and our in-person meetings often ran over our scheduled times as we continued to process all that we were learning. The response to the central question to this inquiry (*What will a group of LESLLA teachers glean from the field of dyslexia education to inform their work?*) can be summarized into three main themes, each detailed below.

Transparency about language and how it works

Throughout our study of dyslexia and instruction for dyslexic students, the LESLLA teachers were struck by the idea that as native speakers and literate adults, we have very much ‘internalized’ the English sound system; we do not always notice nor can we easily explain many of the sound patterns and rules that prove challenging for our learners. Dyslexia educators and curriculum they employed (Wilson Reading System n.d.) demonstrated an extraordinary depth of knowledge of English reading. With this depth of understanding around English sound and spelling patterns, dyslexia-trained teachers make English decoding *transparent* to their learners. This level of comfort with the intricacies of language allows them to explain even the most complex alphabetic patterns with ease to the children in their classes. The dyslexia educators we observed, acutely aware that dyslexia is an auditory processing disorder, focused attention on English *sounds* and very carefully built instruction systematically and incrementally, making an otherwise opaque and internalized sound and spelling system visible and accessible to their students. One LESLLA teacher noted in an online discussion:

What may have value for LESLLA [from dyslexia education]? The tapping, the very systematic, intense approach done by VERY knowledgeable instructors (what if our teachers knew this much about reading!), and the focus on AUDITORY skills were all fascinating and could help us, I think. The teacher who asked "what did you hear" during dictation made a real impression on me - it's not about what the teacher said, it's about what the learner HEARD. A-ha moment!
(Online post, 10/12/2013)

The LESLLA teachers took away new appreciation for instruction that focuses on the sound patterns of language as well as the importance of explaining

multiple meanings and spellings carefully and clearly. Alphabetic instruction for the dyslexic learners we observed centered on the six syllable types of English. These syllable types were new information to some of the LESLLA teachers but is common in the training of elementary school teachers and quite uncommon in the training of adult ESL teachers. We noted that teachers we observed at the dyslexic school were transparent about the rules of English reading and shared a common language about these rules with their learners. In one class of 2nd graders, we overheard a child ask another child, "Is that a welded sound?" and another asked the teacher, "Is that an r-colored vowel?" Such questions were impressive to hear among such young learners! While such conversations sent us to our notes to look up definitions, these dyslexic children were using such terms with each other during class to unravel the complex English sound system.

One participant reflects below on the dyslexia educators' use of word marking and explicit instruction around syllable types and vowel types:

The observation at [school name withheld] gave me some good ideas for how I can expand my work... For example, having them break the word into syllables with marks. I liked what I saw about "scooping" and "marking" the words according to their syllables and the type of vowel that they are (long, short, schwa, etc.). I think that my level 3-4 students could do that and that they would get a lot out of it. I've been struggling with how to explain long and short vowels to my students, and I think that at the level I have, we could maybe use marks. I also really liked the finger/thumb tapping and wonder if I could use that in my classroom.

(Online post, 10/10/2013)

In response to this study circle, the LESLLA teachers began using more common language with their students about English sounds and rules, actively asking them if a syllable is open or closed, for example. Even in the lowest levels teachers began more carefully distinguishing vowels and consonants and teaching these terms. The participants found that teaching and using common terminology with students and being transparent about the rules of English reading are dyslexia education practices that are worth adapting for LESLLA.

Multisensory practice with words and word parts

One of our main topics of reading and discussion throughout the study circle was *multisensory instruction*. This tenet of dyslexia education has six key characteristics 1) simultaneous/multisensory (visual, auditory, kinesthetic, tactile), 2) systematic and cumulative, 3) direct, 4) diagnostic, and 5) synthetic and analytic, and 6) comprehensive and inclusive (International Dyslexia

Association 2009). In our readings and observations, we noted that teachers were 'finger tapping' the sounds of words and having students do the same. This simple, tactile activity allowed teachers to segment and blend words with their learners. When a child was having trouble spelling a word, a teacher often asked him or her to 'tap it out', to use their fingers to break down the sounds in a word or syllable. One LESLLA teacher's online post captures her thinking as she considers trying finger tapping in class:

I've tried the finger tapping recently with some of my students and think this could be a really useful technique for linking decoding and encoding. When I did a spelling assessment recently, it seemed to show that a lot of learners either couldn't hear some of the phonemes in these 3-5 phonemes words or they were forgetting about some of the phonemes when it came time to write them down. I'm interested to see if phoneme tapping could help with this.

(Online post, 10/21/2013)

Each of the LESLLA teachers in the study circle began finger tapping with their learners, and we created videotapes of this practice to share with each other and our colleagues.

In addition to finger tapping, other multisensory practices made a strong impression on the LESLLA teachers. In keeping with dyslexia education practices we were exploring, letter and syllable cards and tiles became a frequent activity among the LESLLA classrooms. These tangible materials allow students to manipulate word parts and to build real words in a tactile way. We realized that handwriting itself is a multisensory activity worth spending time on, and we noted kinesthetic ways to decode and encode cyclically, while connecting oral and written sounds. More detail on the specific multisensory instructional techniques mentioned in this section can be found on a website our study circle established to store our findings and supporting materials for colleagues: www.englishcodecrackers.com.

Time, patience, and access to success

In learning about teaching reading to dyslexic students, we came to understand what a slow and difficult process learning to read can be for these learners. Through the study circle, we saw that teachers of such struggling readers exhibit great patience and give students the time they need to process and think in class. We learned about the high priority of a calm learning environment for students who are easily distracted away from the chore of reading. One participant commented after our first observation at the school for dyslexic learners:

All the classrooms were calm and welcoming. The students had a variety of seating options (yoga balls, hard seats, bean bags, personal desks) and they were allowed the option of moving between the different kinds of seating. The rooms had sections for different activities, which I assume provides the students with structure and brings down their affective filters. Many of my students display symptoms of PTSD [post- traumatic stress disorder], and I think creating a calm environment is key for them to relax, so that they can start to learn.

(Online post, 10/10/2013)

In addition to a relaxed atmosphere, we noticed that the dyslexic students were given ample time to retrieve a word from memory in class, and units were spread over time to allow everyone the ability to complete a task. One observation was at the end of a two-week unit:

Perhaps my biggest take-away from the visit was less about word-level reading instruction and more about extensive modeling of reading and writing skills. I watched a teacher complete what had been a 2-week process of modeling and collaboratively writing a summary of a social studies textbook chapter. It was impressive and reminded me that I often take the "training wheels" off too soon, expecting learners to do it on their own when they may need multiple opportunities to see a complex task (and complex thinking) modeled first!

(Online post, 12/2/2013)

This comment demonstrates a major take-away for the LESLLA teachers: the value of slowing down and providing sufficient scaffolding and time for students learn.

Beyond the pace and atmosphere of instruction, additional strategies stood out to us that enabled struggling readers to gain access to knowledge and to successfully complete tasks. One LESLLA teachers describes some of these strategies:

I was really taken with the use of reading a paragraph from the textbook aloud, frequent pausing for clarification, and the systematic way of doing 2-column notes. The use of assistive technology was impressive too – the teacher took the notes on the smartboard, made them quite large for a student with vision trouble, and the students copied at their own pace. Those who couldn't write fast enough would be given a print out of the same notes. Content wasn't dumbed down or avoided – just made accessible.

(Online post, 11/12/2013)

Instead of using simpler material, teachers found ways to make the content available to all learners. We observed one science lesson that made extensive use of graphic organizers to support learning:

My main take away was graphic organizers, graphic organizers, graphic organizers! The two column notes were interesting and another teacher was using an inverted pyramid. There were also posters of animal classifications in the back of the room where students had sorted pictures into groups. Even students who can't write yet can sort pictures into a graphic organizer.

(Online post, 11/12/2013)

In summary, in observing and learning about dyslexia education, it became clear that this field offers a great deal of pedagogical knowledge around reading and making the difficult sound system of English comprehensible to students. Dyslexia educators have a remarkable grasp of how English works and how to convey it to learners with specific learning challenges. We learned about multisensory reading instruction, and we began trying many of these strategies in LESLLA classrooms. However, our dyslexia study circle also revealed a great deal of care for the learning environment itself. We came to understand that teaching struggling readers is much more than teaching decoding skills, it also involves making knowledge accessible when reading well is not among your students' strengths, and how time, patience, and many ways to build and demonstrate one's understanding of content are critical for students' success.

3.3. Discussion: Impact of collaborative teacher inquiry

Powerful things can happen when teachers come together around a topic they are genuinely curious about and are given the time and space to investigate (Vinogradov 2013). As Fullan writes, "There is a ceiling effect to how much we can learn if we keep to ourselves....Personal mastery and group mastery feed on each other in learning organizations. People need one other to learn and to accomplish things" (Fullan 1995: 257). The nature of this study circle was collaborative and inquisitive. As evidenced by the concrete and lasting changes to their LESLLA instruction, this professional learning experience had a tangible impact. When contacted a year later on another matter, one participant shared the following:

I'm still actively using the techniques I picked up from the circle, even a year later. One thing I picked up from those teachers was that they used their computers and projectors to do graphic organizers (charts) on the board. It's better because the type is easy to read, the lines are easy to follow, and the information is more

organized. So instead of scribbling on the board, I make neat little charts in front of the students. I also do the spelling activity with moveable letters every day.

(Email correspondence, 1/26/2015)

From teacher learning to teacher education

Beyond the lasting impact on their teaching routines, this study circle resulted in 'giving back' to our fellow adult educators in a number of ways. Upon hearing about our work together, the group was asked by the state adult basic education office to share our findings at a regional professional development event in the form of a short workshop. We videotaped each other using our new techniques and synthesized our learning into a 90 minute session for our colleagues. A couple of months later, we were asked to create and deliver a six-hour workshop for over 50 adult educators based on our study circle. This workshop, *Cracking the Code: De-mystifying English Reading*, resulted in a website where we continue to store our workshop materials, videos, and favorite readings: www.englishcodecrackers.com. Study Circle co-facilitator Kristin Perry and I have repeated this workshop in other states by invitation since our initial study circle. We continue to discuss our classrooms together and share our insights and questions regularly.

Six Word Summaries

At the final meeting of our study circle, the participants were asked to reflect on our time together, to flip through their notes, and to describe our work with only six words. This article concludes with their poetic summaries of this collaborative inquiry into dyslexia education and what it means for us as LESLLA educators.

*Colleagues unraveling reading
It's all connected.*

*Finding overlap
Consulting expertise
Practicing mindfulness*

*Chunking, tapping,
categorizing,
Breaking down whole*

*Systematic chaos,
reading, watching, tapping,
learning*

Fingers, eyes and ears to words.

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Note

- 1 Moving now into this study circle specifically, first person is used to accurately represent that the researcher was also a participant in the inquiry.

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THE DIGITAL LITERACY INSTRUCTOR: DEVELOPING AUTOMATIC SPEECH RECOGNITION AND SELECTING LEARNING MATERIAL FOR OPAQUE AND TRANSPARENT ORTHOGRAPHIES

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Abstract

While learning a new language can now be a lot of fun because attractive interactive games and multimedia materials have become widely available, many of these products generally do not cater for non-literates and low-literates. In addition, their limited reading capabilities make it difficult for these learners to access language learning materials that are nowadays available for free on the web. More advanced course materials that can make learning to read and spell in a second language (L2) more enjoyable would therefore be very welcome.

This article reports on such an initiative, the DigLin project, which aims at developing and testing online basic course material for non-literate L2 adult learners who learn to read and spell either in Finnish, Dutch, German or English, while interacting with the computer, which continuously provides feedback like the most determined instructor. The most innovative feature of DigLin is that in production exercises learners can read aloud and get feedback on their speech production. This is made possible through the use of Automatic Speech Recognition (ASR). In this article we focus on what ASR is and what is needed to employ ASR to develop learning materials for non-literates and low-literates L2 learners. Central issue is the selection of the content for the four languages, which differ in orthographic transparency and present their own specific problems in combination with the mother tongue of the learners.

Keywords: automatic speech recognition (ASR), orthography, CALL, TELL, alphabetic literacy, literacy courseware

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Adult literacy, second language and cognition

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1. Introduction

As a result of globalization and internationalisation, learning a second or a third language is becoming increasingly popular. This has led to the development of numerous innovative products and applications that make it easier and more fun to learn new languages. Many of these products, such as Duolingo (<https://www.duolingo.com/>), are even available for free. Although most language learning programs come in different forms and proficiency levels, in general they cater for learners that are able to read. The large groups of LESLLA learners that are insufficiently capable of reading are still overlooked, while it is well known that these learners encounter enormous difficulties in learning new languages, in particular because most of the information and learning materials are available through the written medium and presuppose reading capabilities (Boon, 2012, 2014; Condelli & Spruck-Wrigley 2006; Feldmeier 2008; 2011; Heyn, Rokitzki & Teepker 2010; Kurvers 2002; Kurvers & Ketelaars 2011; Kurvers & Stockmann 2009; Kurvers & Van der Zouw 1990; Onderdelinden, van de Craats, & Kurvers 2009; Pracht 2010; Roll & Schramm 2010; Simpson 2007; Strube 2014; Tammelin-Laine 2011; Tarone 2010; Tarone, Bigelow, & Hansen 2009; Van de Craats & Kurvers 2009; Whiteside 2008; Young-Scholten & Naeb 2010). First, while there is increasing emphasis on language proficiency as a prerequisite for active participation in society, many countries cut down on adult education expenditure (Cooke 2010; Simpson, this volume). Second, in addition to mastering a whole new language system, the (fully) non-literates among the LESLLA learners have to become familiar with new concepts underlying an alphabetic script, such as words, graphemes, phonemes and sounds (see e.g., Kurvers 2007). Given this challenging task, they have to spend considerably long times practicing on their own and performing tedious exercises. Third, LESLLA learners have, in general, limited financial possibilities to buy suitable learning materials. Fourth, they cannot have easy access to the language learning materials that are nowadays available for free on the web, because being able to read is generally a requirement for accessing this information.

Against this background the European project “The Digital Literacy Instructor” (DigLin: <http://diglin.eu>) was started with the aim of developing and testing innovative solutions for LESLLA learners and making them easily accessible to the target groups. DigLin aims to develop and test learning materials that allow LESLLA learners to practice more actively and more frequently. In DigLin Automatic Speech Recognition technology is employed to develop spoken exercises that offer learners the opportunity to practice producing grapheme-to-phoneme correspondences at their own pace, in an anxiety-free setting. The pedagogical approach adopted in DigLin and its

advantages for students and teachers have been discussed in Cucchiari, Van de Craats, Deutekom & Strik (2013) and Van de Craats & Young-Scholten (2015). In the remainder of this paper, we first briefly introduce the DigLin project paying attention to one of its innovative features, i.e. the use of Automatic Speech Recognition to enable practice of L2 speech production and what this requires in terms of technology development and speech material collection. We then go on to discuss recent developments in selecting, designing and developing the content of the learning materials for the four languages involved in the project. Since the orthographies of these languages differ along the opacity-transparency dimension, different choices have to be made and possibly different compromises have to be reached in deciding which words should be practiced in which order. The arguments adduced in favour of the selections made in the DigLin project may be insightful and useful for teachers and researchers who have to deal with similar tasks. Subsequently, we explain how we proceeded to collect information on the reading and pronunciation errors that can be expected in the various L1-L2 combinations and present the information we gathered.

2. The DigLin project and its innovative character

2.1. Background

The DigLin project is funded by the Lifelong Learning Program (LLP) of the European Commission and is aimed at developing and testing L2 literacy learning materials in four different languages. Automatic Speech Recognition (ASR) is employed to analyze the learner's speech output and provide feedback. In line with the LLP requirements, DigLin is also aimed at disseminating the knowledge gathered within the project and at promoting exploitation of the project's results.

DigLin is carried out by a consortium consisting of partners from the Netherlands (Radboud University Nijmegen and Friesland College), Germany (University of Leipzig) and later Austria (University of Vienna), United Kingdom (Newcastle University) and Finland (University of Jyväskylä), and addresses four languages: Dutch, German, English, and Finnish. These languages have been chosen because their orthographies differ along the opacity-transparency dimension: Finnish with its clear correspondence between graphemes and phonemes has a shallow orthography and is therefore transparent, Dutch and German are in between, and English with its deep orthography is opaque.

The DigLin learning materials are not developed from scratch, but from a pedagogically sound basis which is FC Sprint² (Deutekom 2008), a language learning approach for Dutch L2 learners developed at Friesland College in Leeuwarden, The Netherlands. The rationale behind FC Sprint² is that students have to work with their own resources and have to be autonomous. In FC Sprint² students have to find out themselves instead of being told by a teacher. The teacher is the last resort. Further information on the principles underlying FC Sprint² and DigLin can be found in Cucchiari, Van de Craats, Deutekom & Strik (2013) and Van de Craats & Young-Scholten (2015).

The system developed within the FC-Sprint² program for non-literates and low-literates has been adopted for DigLin, and specific content and exercises have been developed for the four languages in the project. Traditional (digital) course material for literacy learning tends to focus on receptive tasks in which learners can listen to audio recordings and perform identification exercises of the drag-and-drop type, while in DigLin we also incorporate production exercises, as will be explained in the following section.

2.2. Automatic Speech Recognition technology

The innovative feature of DigLin is that it employs Automatic Speech Recognition to allow learners to practice L2 speech production through spoken, recoding (blending) exercises to learn grapheme-to-phoneme or graphemes-to-word correspondences in the L2, and to automatize them.

In the past ASR has been employed in reading tutors for children learning to read in their L1 (Mostow 2008). More recently, ASR has also been used in mobile applications for illiterate adults (Al-Barhamtoshy, Abdou & Rashwan 2014) learning to read in their L1. In DigLin, we carry out research on developing dedicated ASR technology for each of the four target languages in question. We study to what extent it is possible to perform speech-to-text conversion for L2 speech of beginner learners and readers and to detect possible reading or pronunciation errors in the learners' L2 utterances with a view to providing feedback on the errors observed.

In order to analyze the learners' responses, ASR technology is first employed to recognize the words and utterances spoken by the learners. When dealing with multiple languages and non-native speakers this can be challenging (Benzeghiba et al. 2007) especially in the case of illiterates (Al-Barhamtoshy, Abdou & Rashwan 2014) and in the case of beginner L2 learners (Van Doremalen, Cucchiari & Strik, 2010). In DigLin, these problems are compounded because we have to deal with (non-literate or low-literate) beginner readers trying to learn an L2, and measures have to be taken to ensure

that the recognition process is as successful as possible. ASR is a stochastic procedure in which speech corpora containing speech signals and their annotations are employed to train the speech recognizer and thus derive information about three 'knowledge sources': the language model, which contains probabilities of words and word sequences, the acoustic models, which model how the speech sounds are realized, and the lexicon, which is the connection between the language model and the acoustic models. During the recognition process (see Figure 1) the incoming speech signal is first analysed to extract the acoustic features, and then a search algorithm converts it into a string of words by using the three information sources. Since language learners may produce errors in pronunciation, vocabulary and grammar, the three knowledge sources (acoustic models, lexicon and language model) have to be adapted in the case of learner speech, for instance by using learner speech material (see below) for training or adaptation. In addition, to limit the difficulties in speech recognition, measures can be taken to constrain the nature of the exercises so that the computer can choose from among a limited number of possible answers.

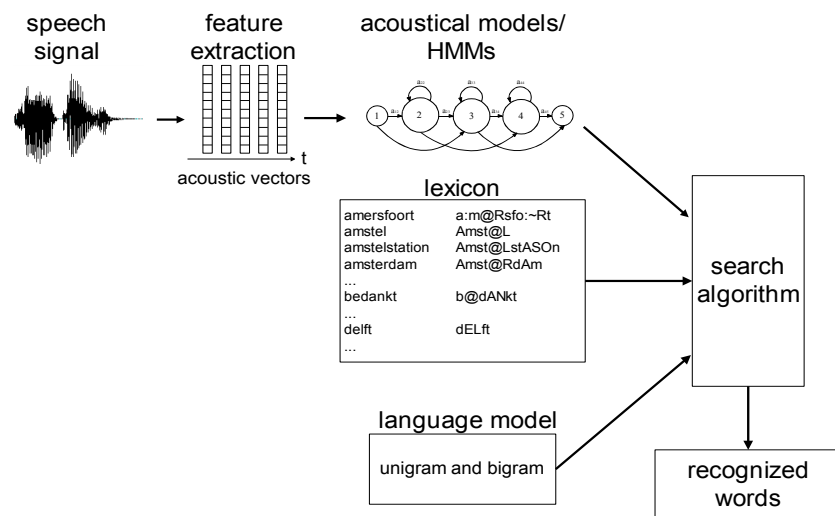


Figure 1: Example of an ASR system for a public transport information system. The lexicon contains station names in two representations: an orthographic and phone transcription.

In a second stage, after the speech signal has been converted into a representation of the words it contains, ASR-based algorithms using acoustic models trained on native speech are employed to try to detect reading or pronunciation errors in the identified words.

To optimize the performance of the ASR technology, recordings of non-native speech are required. This speech material serves multiple purposes. First, it is used to test the performance of the ASR modules for each of the four languages with speakers from the target group. Second, it can be used to adapt the acoustic models employed by the speech recognizer so as to improve its performance in recognizing which words or utterances the learner is trying to pronounce. Third, to facilitate the process of identifying reading and/or pronunciation errors in the learner's utterances, it is important to know which errors can be expected for each L1-L2 combination. This information can be obtained from the literature, from teachers who work with learners of the specific target groups, from contrastive analyses of the L1 and L2 phonological systems, and directly from data if a sufficient number of speech recordings of the target group is available. If the latter is not the case, limited amounts of L2 speech can be recorded and used to supplement the information from the literature. Fourth, non-native speech recordings can be used to evaluate the accuracy of the reading and pronunciation error detection algorithms and see whether they can detect the errors contained in these recordings.

At the time of writing, the system is being tested (see below) and a detailed account of the performance of ASR in the four languages is not yet possible.

3. Recent developments in the DigLin project

In this section we report on recent developments for the four languages involved in DigLin with respect to the steps identified in Van de Craats & Young-Scholten (in press). These development steps are briefly described below. We then proceed to discussing these steps for each of the four languages which are presented in order of ascending orthographical complexity from Finnish to English.

3.1. Creating a 'sound bar' for each language for use with exercises in each set

The sound bar (see Figure 2) is a supporting tool that gives the learner an overview of the entire alphabet with the single graphemes, digraphs and trigraphs used in the software. Learners can also listen to the sounds corresponding to each grapheme, digraph or trigraph. This is to help them

establish letter-to-sound connections. For some languages the sound bar contains almost all letters of the alphabet, but for English this is not the case. In the following sections we explain which choices were made for the various languages and show how the sound bar looks like for each of them.

3.2. Using the FC-Sprint² Leerbedrijf technology to create fifteen exercise sets for each language

For the DigLin software we implemented five different types of the exercises already contained in FC-Sprint². These address the following sub-skills of the reading process: (1) the meaning and form of a word, (2) establishing phoneme-grapheme correspondences in visual and aural analysis and synthesis (blending), (3) recognizing whole words, (4) recognizing strings of phonemes, and (5) automatizing phoneme-grapheme correspondences and the decoding and recoding of words. The exercises developed for this latter purpose required actions like pushing and hovering over buttons, dragging and dropping letters and words, and typing letters. The exercise of reading with the help of the sound bar and the one of reading without any help (Test yourself) were added at a later stage.

Experience with FC-Sprint² had shown that within one set of exercises –using the same twenty words–, only restricted variation in the phoneme-grapheme repertoire and sufficient repetition would yield success.¹ This entails that only a restricted number of new vowels and consonants per set of exercises could be introduced to meet the first criterion, and that no less and no more than twenty words with those graphemes were required to meet the second criterion of sufficient practice. Moreover, another criterion was that the meaning of the words employed should be depictable as much as possible to avoid that learners keep in mind a wrong meaning. On the other hand, we had to accept that learners do not grasp the exact meaning at once, but first form a basic idea and only later do they store the meaning with more detailed vocabulary knowledge.

Collecting information on possible pronunciation errors and speech recordings for each L1-L2 combination

As explained above, recordings of non-native speakers (potential learners) are required to optimize the speech recognition algorithms. In addition, we need to collect information about the possible errors potential DigLin users are likely to make in the L2 they intend to learn. For the four languages involved in DigLin, this information was gathered from the literature, L2 corpora and recordings of speakers from the target group. In addition, for each language a limited number of recordings of speakers from the target group were collected. These were transferred into PRAAT (Boersma & Weenink 2003) and

phonetically annotated in SAMPA.² The information obtained for the different L1-L2 combinations is presented below for each target language (L2).

4. Finnish

4.1. Creating the Finnish sound bar

In Finnish, letter-sound correspondence is very consistent when compared with many other languages. The Finnish sounds (phonemes) are presented in Figure 2 in their orthographic form (graphemes and digraphs).

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
p	q	r	s	t	u	v	w	x	y	z	ä	ö	ng	nk

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Figure 2: *The Finnish sound bar*

Each phoneme is spelt with the corresponding single letter when short and two letters when long, except for the velar nasal /ŋ/, which only appears before /k/ and is spelt with <n(k)> or <ng>. All the letters of the alphabet are included in the sound bar, but only those used in the software are in black. We decided not to include the graphemes <c>, <q>, <w>, <x>, and <z> in the exercises because they occur only in some loan words and therefore are infrequent in Finnish.

4.2. Using the FC-Sprint² Leerbedrijf technology to create fifteen exercise sets for Finnish

In Finnish there are very few one syllable CV(C) words and short and frequent minimal pairs with concrete meanings. For these reasons exercises like those for Dutch contrasting e.g., e - i - a etc. are not feasible. Because the most simple and very common syllable structure in Finnish words is CVCV we decided to begin with these prototypical words instead and to move on to words of other shapes. Additionally, individual sound segments are less of a literacy problem in Finnish, where the letter-sound correspondence is regular and the total number of phonemes to be acquired is small. Practicing the variety of word shapes (combinations of syllable types), or the rhythm of words, is also thought to work better than practicing with only minimal pair exercises focusing on the long and

short sounds which are very common in Finnish. This is based on the experience of teachers, as there is no research on this topic.

Nearly all the letters and sounds are presented in the first three sets of words. Only /d/, /f/, /g/, and /h/ are presented later because they do not occur in CVCV words. The general selection criteria point us to easy, short, frequent (in the environment of the target group), concrete, depictable words, mainly nouns, with some adjectives and verbs, proper nouns, transparent with other languages where possible. The nouns and adjectives are presented in their nominative forms and the verbs in 3rd person singular forms. We also introduced some compounds of the CVCV+CVCV type towards the end of the set of exercises, to illustrate that a long Finnish word can consist of familiar parts, which can help reduce the anxiety for reading long words. Maximum length of the words was eight letters because of the restrictions in the software.

Table 1: *The syllable structure of the words used in the software*³

Word type	Syllable structure	Example	Translation
Two-syllable words (including minimal pairs where possible), one-syllable words	CVCV	ka-na	'chicken'
	CV ₁ V ₂ CV	tuo-li	'chair'
	CVC ₁ C ₂ V	jal-ka	'foot'
	CV ₁ V ₁ CV	lää-ke	'medicin'
	CVC ₁ C ₁ V	suk-ka	'sock'
	CVC ₁ C ₂ C ₂ V	help-po	'easy'
	CV ₁ V ₁ C ₁ C ₁ V	viik-ko	'week'
	CV ₁ V ₁ C ₁ C ₂ V	juus-to	'cheese'
	CV ₁ V ₂ C ₁ C ₂ V	puis-to	'park'
	CVC ₁ C ₂ C ₂ V	kort-ti	'card'
	CV ₁ V ₂ C ₁ C ₁ V	kaup-pa	'shop'
	V ₁ V ₁ CV(C)	uu-si	'new'
	V ₁ V ₂ CV(C)	au-to	'car'
	VC ₁ C ₁ V(V)	al-la	'under'
	VC ₁ C ₂ V(V)	an-taa	'give'
	one syllable	mies	'man'
	VCV	i-sä	'father'
	ending with C	ken-gät	'shoes'
Longer words (three and four syllables), compound words (four syllables)	CVCVCV	si-pu-li	'onion'
	CVCVCCV	to-maat-ti	'tomato'
	CVCV + CVCV	va-lo-ku-va (va-lo 'light' +ku-va 'picture')	'photo'

4.3. Collecting information on possible pronunciation errors and speech recordings for each L1-L2 combination

The major problem for most learners of Finnish is to learn the distinction between short and long sounds at the phonemic level (e.g., *tu-li* 'fire', *tuu-li* 'wind', *tul-li* 'customs'), as the actual phonetic duration varies notably depending on the speaker, the sound, the length of the word and the utterance, the position of the sound in the word etc. As to the individual segments, the L1 matters, but the following are problematic for most of the learners:

- The large number of vowel sounds (8), particularly /y/, /æ/, /ø/
- Diphthongs (18, e.g., /uo/, /ou/, /yø/, /øy/)
- /r/, /h/, /ŋ/
- Certain combinations of consonants, depending on the L1 (e.g., /ts/, /sk/).

The following information is based on the comparison of phonological inventories and descriptions of Somali and Arabic languages, available on the Internet. There seems to be no research on the pronunciation problems in Finnish by the representatives of these specific languages. The inventory information has been complemented by discussions with some language and literacy teachers, but is nevertheless theoretical and not data-driven.

Arabic

Vowels: Arabic only has three vowels /a, i, u/, while Finnish has eight /a, o, u, æ, ø, y, e, i/. Thus one can predict problems with most vowels. However, in North Africa, where French is commonly spoken, /y/ could be familiar from French. Also /o/, /æ/ and /ø/ appear as locally controlled allophones, so they are not totally unfamiliar per se, but may appear irregularly, depending on the local environment within the word. The most difficult one might be /e/ (> /æ/, /ø/). When reading aloud, the spelling may further confuse, as the spelling of vowels in foreign words varies considerably. However, this is not expected to be a problem for non-literate beginner learners as they learn the grapheme-phoneme correspondence for the first time in Finnish. Additionally, the one-to-one orthography may help them with establishing the distinctions between Finnish vowels.

The diphthong inventory of Finnish is also quite extensive (18 in standard language, with a lot of regional variation). Diphthongs can be analyzed as sequences of two basic vowels and once they are learned, the major problem is to keep apart similar ones. Likely problems: /ou/ vs. /uo/, /øy/ vs. /yø/, /ei/ vs. /ie/.

Consonants: Arabic has a large variety of consonants, while Finnish has relatively few, only /d, h, j, k, l, m, n, p, r, s, t, v and ɲ/ in native words, with /b, f and g/ in common loan words.

Common errors: v>f, p>b, g>k, ɲ>n. Many Arabic consonants are pronounced emphatically, while Finnish ones are usually quite soft (most speakers of English or German tend to hear Finnish /k, p, t/ as voiced, particularly in word initial position, as there is no aspiration) so it is likely that stops will be pronounced as too strong (also /h/ in some positions, particularly in syllable-final position as in words like /kahvi/ 'coffee'. Also /l, r, and s/ are likely to produce qualitative problems as similar sounds exist in Arabic, but there is a lot of variation. Finns tend to interpret correctly any version of these sounds, but obviously using, e.g., [z] or [ʃ] for /s/ marks the speech as accented, as do various versions of /l/ and /r/.

Prosodic errors: Arabic has long vowels and consonants which are qualitatively like the short ones, so this should not be a basic problem. Learning to hear and produce the distinction may be problematic in specific contexts, such as unstressed syllables.

Somali

Vowels: Most short Somali vowels are quite close to the Finnish ones. There is no /y/, so errors of the type y>i or y>u or y>ø are likely. Also the division of the central area is different, there is no /ø/ but several vowels nearby, so substitutions like /ø>/o/ or /e/ are possible. Some Somali vowels (particularly /i/ and /e/) are qualitatively different when long, so errors of the type /ii>/ee/ or /ee>/ææ/ are likely. Diphthongs ending in /i/ or /u/ exist in Somali, but distinctions like /ou/ vs. /uo/, /øy/ vs. /yø/, /ei/ vs. /ie/ are likely to cause errors, as are any diphthongs containing the unfamiliar /y/ or /ø/.

Consonants: Potential errors in consonants are: /p>/b/, /ɲ>/n/, /v>/f/. The quality of /t/ and /d/ is different, but it is hard to say whether this could produce confusion.

Prosody: Somali has long vowels, but their quality is not always the same as that of short vowels. Also geminate consonants exist, but not for all consonants that can be long in Finnish. Predicted errors: kk>k, tt>t, ss>s. Any long and short distinctions may be hard to perceive and pronounce in certain contexts, particularly in unstressed syllables.

We recorded 15 non-native speakers for ASR, all of them had a low to intermediate level of literacy. They were from three adult education centres from Southern Finland with seven Somali speakers (four men, three women) and eight Arabic speakers (five men, three women), and they were divided into two groups according to their age (older and younger speakers). They were asked to read aloud the 300 words we used in DigLin.

5. Dutch

5.1. Creating the Dutch sound bar

The sound bar in Figure 3 is an inventory of the Dutch sounds (phonemes) disguised in their orthographic form (graphemes and digraphs).

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t
u	v	w	x	ij	z	aa	ee	ie	oe	oo	uu	au	ou	ei	eu	ui	ng	ch	

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Figure 3: *The Dutch sound bar*

All the letters of the alphabet, the diphthongs <ou> and <au> (/au/), <ei> and <ij> (/ɛi/) and <ui> (/œy/), as well as the digraphs <aa>, <ee>, <ie>, <oe>, <oo>, <uu>, <eu>, <ng> and <ch> figure in the sound bar, but only those used in the software are in black. We decided not to include the graphemes <q> and <x> in the primary set of exercises because of their infrequency. Those graphemes are pale and cannot be activated in the sound bar. The <ij> (/ɛi/) is part of the Dutch alphabet and is identically pronounced to the digraph <ei>. The digraphs <aa>, <ee>, <oo> and <uu> represent the vowels /a:/, /e:/, /o:/ and /y:/ respectively, in closed syllables (e.g. *raam* 'window'), while in open syllables simple graphemes are used (e.g. *ramen* 'windows'). The digraph <oe> stands for the vowel (/u'/) and <au> and <ou> are two orthographic representations of the same diphthong /ou/. The schwa (/ə/) is not included in the sound bar separately because the corresponding grapheme is <e>, e.g. in *tafel* 'table'. We could have opted for marking the <e> with a grey button –as was done for English and German– to indicate that we are dealing here with more than one correspondence for that grapheme. We have not done so because (i) it would do harm to the simplicity of the sound bar and (ii) the schwa only occurs in a restricted number of morphemes (-el, -en, -er, -je, -eren) that a learner will recognize rather soon. These morphemes are introduced in Exercise set (or word list 5).

5.2. Using the FC-Sprint2 Leerbedrijf technology to create 15 exercise sets for Dutch

The process of selecting the Dutch words can best be illustrated by presenting the words of the first set in Table 2. Since Dutch has more graphemes (17) for vowels (16) than the native languages of our learners do, we have built up the

wordlists around the central element of the syllable –the vowel- and added the consonants around in a more or less systematic way.

Table 2: *The first set of 20 words (Dutch); basic selection of vowels and consonants*

a (k, p, t, m, n)	oo (k, p, t, m, n, s, b, r, l)	ie (k, p, t, m, n, s, b, r, v)
kam - comb	boom - tree	tien - ten
kat - cat	boon - bean	kies - molar, back tooth
kan - jug	boot - boat	biet - beet
man - man	noot - nut	vies (adjective) - dirty
map - binder	kool - cabbage	vier - four
pan - (sauce-) pan	roos - rose	riem - belt
pak - parcel or suit	rook - smoke	
7 words	7 words	6 words

All the words in Table 2 can be represented by a picture, although *rook* ('vapor') is not really easy to grasp for a learner. In general, nouns are easier to represent than adjectives and verbs. We have postponed their introduction as much as possible.

As for phonology we would like to start with phonemes in CVC words that are known in most languages and are relatively easy to distinguish from each other, in this case at the corners of the vowel triangle. So, typologically frequent phonemes and regular orthography.

The first concession we had to make was to take <oo> (/o:/) instead of <oe> (/u'/) because two times a digraph with the letter <e> might be confusing for our learners. As for the consonants, we would have preferred to start with only plosives and nasals, but this turned out to be impossible. We could not find enough words that also met the other criteria (monosyllabic, with the <a>, <oo> or <ie>). Therefore we added <s>, , <r>, <l>, and <v>, notwithstanding that for Somali and Moroccan learners, who are our target group of learners, /p/ is a new sound that is not distinguished from /b/. We think that early confrontation with new sounds like /p/ and presentation of the two sounds /p/ and /b/ in opposition helps to draw the learner's attention to this specific difficulty. It helps to make them attentive and active learners and stimulates learning.

In the second set of exercises, we could easily make 20 words with three new vowels (<aa>, <oe> and <i>). Successively, all vowels, consonant clusters and diphthongs were introduced and the words became longer. In exercise set 15, disyllabic words like *gebouw* 'building', *koffer* 'suitcase', *koelkast* 'fridge' are found. Words of more than eight (di)graphs cannot be dealt with in this program.

5.3. Collecting information on possible pronunciation errors and speech recordings for each L1-L2 combination

To find information on pronunciation errors made by Moroccan learners of Dutch, we examined existing literature on reading errors (Kurvers & Van der Zouw 1990: 193-199) and the LESLLA corpus (Sanders, Van de Craats & De Lint, 2014) which contains semi-spontaneous speech and a sentence imitation task. For Somali speakers of Dutch Kamphuis & Amer (2013) was consulted and we interviewed speech therapist Coppens, who coached a group of Somali speakers. Together, this resulted in basic list of common errors presented in Table 3.

Table 3. *Inventory of common errors from various sources*

Moroccan	Front vowels	Back vowels	Consonants	Consonant clusters
Kurvers & van der Zouw	<ee> → /ɪ/ <ee> → /ɛ / or /ɪ/ <i> → /i' /	<u> → /y/ <u> → /ɔ/ <oo> → /ɔ/ <au> → <oo>	<g> not pronounced or as /h/.	Substitution, transposition (ts and st),
(read aloud)		<uu>, <u>, <eu>, <o>, and <oo> → /u'/. <ui> → /uu/.	<h> not pronounced. <w> → /v/.	deletion and addition in consonant clusters.
LESLLA corpus (Sanders et al.) (semi-spontaneous and sentence imitation tasks)	/e:/ → /ɛ / or /ɪ/ /ɪ/	/ə/ → /ɔ/, /o:/. /y:/ → /u'/. /œy/→ /au/.		Deletion and addition in consonant clusters.
Somali	Front vowels	Back vowels	Consonants	Consonant clusters
Coppens, p.c. (semi-spontaneous speech)	/y' / → /u' /		/p/ → /b/. /v/ → /w/.	S-cluster in onset and coda. Insertion of /ə/ before the s-cluster, and in between a word-final cluster (-təs , -pət, -lət, -ləs, -kəs etc.). Deletion of /ə/ in word-final position.

One of the problems with the literature was that Moroccan learners were not split up into Berber and Arabic speakers. Therefore we collected data ourselves from Moroccan adults with either an Arabic or a Tarifiyt Berber language background and compared them to what Kurvers and van der Zouw found. It turned out that in general, they make similar common errors.

All non-native speakers recorded for the present DigLin project had a low to intermediate level of literacy. Ten of them were men, and ten were women. There were eight Somali speakers, six Moroccan Arabic speakers and six speakers of Tarifiyt Berber, equally divided over old and young speakers from five different adult education centers or institutions spread over the country. We asked them to read aloud the 300 words we used in the DigLin fifteen word lists.

6. German

6.1. Creating the German sound bar

The sound bar in Figure 4 is a simplified inventory of frequent German sounds (phonemes) disguised in their orthographic form (graphemes, digraphs and trigraphs). Graphemes are followed by digraphs and trigraphs, both groups in alphabetical order, so learners can distinguish what belongs to the standardised alphabet and what is added independently of the standard.

a	ä	ä	ä	b	c	d	e	e	f	g	h	i	j	k	l	m	n	o	o	ö	ö	p
q	r	s	ß	t	u	u	ü	ü	v	w	x	y	z	au	ch	chs	ei	eu	ie	ng	qu	sch

Figure 4: *The German sound bar*

Also for the German sound bar design, the major goal was to offer learners a resource on all correspondences of phonemes and graphemes or multi-graphemes that appear in the DigLin software.⁴ The group of graphemes does not exactly correspond with the standardized alphabet. The *Umlaute* <ä>, <ö>, <ü> and the <ß> do not belong to the standardized alphabet. Since they are commonly used graphemes, we decided to include and organize them by criteria of proximity to letters of the alphabet: the *Umlaute* by graphic similarity and the <ß> by its phonetic closeness to <s> (<ß> always corresponds with /s/, <s> has the same sound in for instance coda positions). The sound file in the sound bar connected to each grapheme was chosen on the basis of the most common realizations of the grapheme. Alternative realizations are marked

within the words by additional grey dots: for example, when <s> precedes <p> or <t> at the beginning of a syllable, it is not realized as /z/, but changes to /ʃ/; therefore it is marked with a grey dot (see Fig. 5). This decision was based on the fact that the different realizations of a grapheme or digraph depend on their position within a word as well as the preceding and following letters. The integration of all alternatives in the sound bar would have made it visually overloaded and unclear and may have led to the assumption that the correspondence is arbitrary. The inclusion of grey dots within the words aims at turning the learner's focus and attention on the specific positions in which certain correspondences appear so that ideally they can deduce the cause and find regularities.

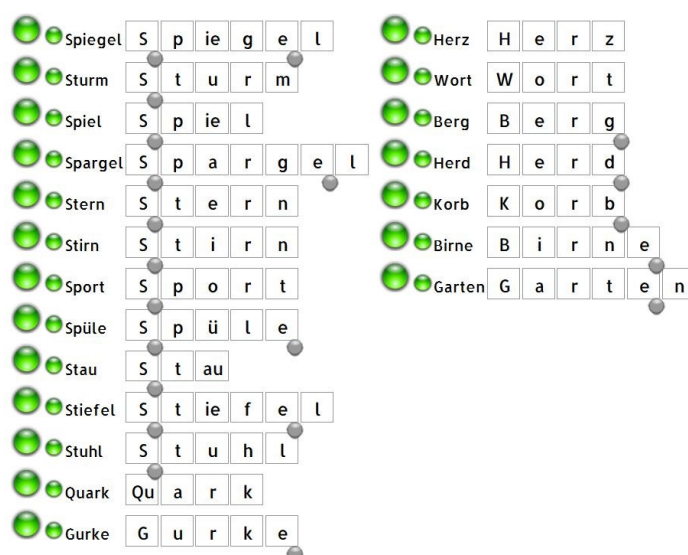


Figure 5: Example for grey dots within the words (*Alle Wörter 9*)

The convention of grey dots, however, was not applied to the vowel system because of the high range of vowels in the words. Marking all variations within the words would have led to too many grey dots and thus a visual overload. Therefore, all vowels and *Umlaute* are represented in their short and long version in the sound bar, whereas <i> and <ie> are kept separately. Solely the schwa (/ə/), as in the unstressed syllable of *Birne* 'pear' (see Fig. 5), is marked with a grey dot, so learners can become aware the relevance of stress patterns for German orthography.

6.2. Using the FC-Sprint² Leerbedrijf technology to create fifteen exercise sets for German

The German word lists only contain words with maximally two syllables. Based on what is known about common errors (see Markov, Scheithauer & Schramm 2015) made by speakers from the target group of the German DigLin version (Arabic and Kurdish speakers), we chose to focus on vowels when compiling the wordlists. The main criterion for distinction is the length of the German vowels: Long vowels are introduced in word sets 1-7; short vowels are implemented in word sets 8-15. As shown in Table 4, within these two groups we separately introduced similar vowels.⁵

The criteria for introducing consonants are based on frequency and similarity. According to Rokitzki, Nestler & Sokolowsky (2013: 99) the consonants <f>, <l>, <m>, <n>, <r>, <s>, <sch> and <w> are particularly easy to hear and pronounce because of their lasting quality. They were therefore integrated into the first word sets. Consonant clusters only appear from word set 6 on and become more complex in the following word sets in terms of their related vowel quality (see Table 4): Word set 6 contains words with consonant clusters in the beginning of a word because this has no impact on the vowel quality. Word set 8 introduces consonant clusters in the coda of a syllable or word that signal the shortening of the preceding vowel. From word set 14 onward, the number of elements in a consonant cluster rises to four.

6.3. Collecting information on possible pronunciation errors and speech recordings for each L1-L2 combination

Due to the high number of Kurdish (22%) and Arabic (14%) speaking literacy learners in Germany (Schuller, Lochner & Rother 2012: 6) these two languages were chosen to be focused on in the ASR system. On the basis of the contrastive overview of phonemes of German and these two languages (Markov, Scheithauer & Schramm 2015: 52ff, see Table 7) a list of possible common errors was deduced. Errors were predicted where the German phonemes have no or a different correspondence in Arabic or Kurdish. There is, for example, no correspondence for the German /ə/, which causes either omitting or replacing it by other phonemes as /e:/ or /i:/, which later on was confirmed on the basis of non-native speech recordings that were made in Berlin and Leipzig in spring 2014 for DigLin. Fourteen learners with L1 Arabic or Kurdish who were of

Table 4: *Overview of increasing orthographic complexity of German word sets 1-15*

Set	Stress first syllable	Vowels and diphthongs	Consonants	Particular grapheme-phoneme correspondences		
				General	Syllable-initial	Syllable-final
1	stressed	Long: a, e, o, au	n, m, l, g, b, t, f, s, r, sch	sch	s, r	o, a, e, en, consonants do not change in coda position
2	stressed	ei	p, k, w, h	ei	h	El, ei
3	stressed	long: u	d v ß	v		Er
4	stressed	long: ie i ö	z	ie, i, ie+r		I
5	stressed	long: double vowel short: a (+r)	j	a+r in the same syllable: vocalic r		d, b, g, s
6	stressed				cons. clusters	
7	stressed	long: ü, vowel+mute h, eu		vocalic r		
8	stressed	short: a, u, I, ö		syllable-final s, double consonants	intervocalic consonant sequences and syllable-final clusters	
9	stressed		qu	vocalic r, st, sp		
10	stressed	short: e o	ck ng			
11	stressed, overlap-	short: ü ä	x chs		Intervocalic ck ng x	
12	ping				double consonants and sch	
13	syllable separation		ch, clusters CCC	a o u + ch other + ch		Ig
14			clusters CCCC			
15	un-stressed					

Table 5: *Contrastive overview of inventory of phonemes in German, Arabic and Kurdish (translated and adapted from Markov, Scheithauer & Schramm 2015: 52ff)*

Examples in German		German	Arabic	Kurdish Kurmancî	Examples in German	German	Arabic	Kurdish Kurmancî
Consonants	Bein	b	b	b	Schule	ʃ	ʃ	ʃ
	Post	p		p	Etage	ʒ		
	Dach	d	d	d	Licht	ç		
	Ton	t			Jacke	j		j
	/t/ (no aspiration)		t	t	lachen	x	x	x
	Gott	g		g	Reise	ʀ ; ʁ; r	r	r; r
	Kind	k	k	k	Haus	h	h	h
	Wanne	v		v	Mann	m	m	m
	Fenster	f	f	f	Nase	n	n	n
	Sonne	z	z	z	singen	ŋ		
	Haus	s	s	s	lesen	l	l	l

Examples in German		German	Arabic	Kurdish Kurmancî	Examples in German	German	Arabic	Kurdish Kurmancî
Affricates	Dschungel	dʒ	dʒ	dʒ	Quark	kʷ		
	Taxi	ks			Zehe	ts		
	Tschüss	tʃ			Psychotherapie	ps		
	Pferd	pʃ						

Examples in German	German	Arabic	Kurdish Kurmancî	Examples in German	German	Arabic	Kurdish Kurmancî
Vowels	Saal	a:	a:	Vowels and Umbaute	Summe	ʊ	ʊ
	Tasse	a	a		---	u	
	--				Söhne	ø:	
	--		æ:		---		
	Beet	e:	e:		Hölle	œ	
	Bett	ɛ			blühen	y:	
	---				Hütte	ʏ	
	Käse	ɛ:			---		
	Liebe	i:	i:		laufe	ə	
	Lippe	i			Winter	e	
	--		i	Diphthongs	Mai	aɪ	
	Lohn	o:	o:		---		ej
	Sonne	ɔ			Eule	ɔʏ	
	---				Träume		
	---				laufen	aʊ	
	Stuhl	u:	u:				

7. English

7.1. Creating the English sound bar

Unlike the other languages involved in DigLin, English has a highly irregular orthography where almost 50% of English words are not regular grapheme-phoneme correspondences (GPC) (see e.g., Carney 1997; Shappek & Welch 2012). The sound bar created for English in Figure 6 loosely follows revised GPC rules for English monosyllabic words proposed by Vainikka (2013) much fewer than previous attempts (Cummins 1988; Bell 2004). It shows English phonemes in their orthographic forms including irregular patterns.

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
ae	ai	air	ar	ay	ch	ck	ea	ear	ee	ie	igh	ir	mb	ng	oa	oe	oi	oo	ou	ow	qu	sh	th	ue	wr

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Figure 6: *The English sound bar*

Along with 26 single letters in the alphabet are double letters, digraphs and trigraphs (e.g., <oo>; <ch>; <igh>), and the split digraph in words like <gate> where the first vowel's pronunciation is informed by the presence of silent <e>. As with the other three languages, the sound bar shows graphemes that represent more than one sound with a grey dot (e.g., <c> can be /s/ or /k/). Because <q> is infrequent, the letter is grey and it appears on the second line in black as <qu> because it is always followed by a <u> for /kw/.

7.2. Using the FC-Sprint2 Leerbedrijf technology to create 15 exercise sets for English

Learning to read in English takes longer than in most other languages due to its irregular orthography (Goswami 2005). The existence of regular spelling rules alongside irregular spelling has fuelled continuous debate about how children learn to read, i.e. using a phonics, whole word or a whole language method (see Rayner et al.'s 2002). At present in the UK, primary school teachers are directed to combine phonics and whole word methods (Wyse and Styles 2007). Teachers of LESLLA learners vary in method and focus as the recommendations in the ESOL curriculum focus on the next level up and include very little on teaching basic literacy at the sub-CEFR A1 level.

Vainikka starts with monosyllabic words and distils regular and irregular spelling patterns into a set of 43 rules. Each letter is scored for regularity, and the uniform, exceptionless GPCs get the highest score, a 1. This scoring yields the order below, shown for the first ten rules all of which apply in both American and British English. The remaining rules refer to increasingly specific patterns for vowel monographs and vowel and vowel-consonant digraphs and trigraphs such as <oe> and <ew> and <ugh>.

When preparing word lists for the exercise sets, it was impossible to strictly follow the above order because only consonant GPCs are uniform. Vowels were considered in the context of LESLLA learners' developing phonological competence and their assumed ability to more easily distinguishable cardinal vowels, of vocabulary relevant to them and also depictable for the software itself. There were other adjustments including delay of the first GPC that two repeated consonant letters are a single phoneme) until the end of the exercise sets given potential confusion for beginners for whom double letters represent geminates (e.g. Arabic speakers). The second rule was also introduced later as GPCs which involve silence will confuse beginners. 3 was therefore the first rule applied to word sets. Vainikka's rules are based on American English and include final <r>.

In most British English varieties it is not pronounced, but since it influences vowel pronunciation <r> was included, but with vowels.

Exceptions to these are a small set of sight words.

Rule 1. <CC> = C. Two adjacent instances of a consonant are read as one

Rule 2. <b, g, h, k, l, s, w, and gh> can be silent

Rule 3. Uniform single letters: <b, d, f, k, l, m, n, p, r, t, v, z>

Rule 4. Uniform digrapheme <ch, ck, ng, ph, sh>

Rule 5. Uniform clusters/digraphs: bl-, br-, dr-, fl-, fr-, pl- pr-, shr-, tr-, -mp, -nd, -nk, -ft, -nt, -pt

Rule 6: <h, w, y, j, qu> are uniform in onsets, and <x> is uniform in codas

Rule 7: <th> has two uniform pronunciations, voiced and voiceless

Rule 8: <s> has two uniform pronunciations, voiced and voiceless

Rule 9: <c> is [s] and <g> is </dʒ/ before <e, I and y>; <c> is /k/ and <g> is /g/ elsewhere

Rule 10: words ending with vowel + <y> are uniform

Figure 7: *Vainikka's (2013) most uniform rules*

7.3. Collecting information on possible pronunciation errors and speech recordings for each L1-L2 combination

English is difficult not only due to its irregular orthography, but also syllable structure similar in complexity to its Germanic cousins Dutch and German. Pronunciation errors will differ depending on the learner's L1. Two L1s were chosen: Arabic and Bengali. The following shows a description of these languages' phonologies and errors that can be predicted for learners of English.

Arabic

Although a number of varieties of Arabic exist, errors learners produce when learning English are roughly similar and include both a range of vowel errors due to Arabic having only three vowels /a, i, u/ and consonant errors where consonants absent in Arabic cause problems in English and result in confusion between the stops /p/ and /b/, /g/ and /k/ and between nearly all fricative and affricate minimal pairs in English. The many initial and final consonant clusters in English create difficulties for Arabic speakers given that its canonical syllable structure is CV(C). To bring syllables into conformity with Arabic syllable structure, Arabic rules of epenthesis are often applied where a word such as

<price> is realized as /pɪraɪs/, <spring> as /ɪsprɪŋ/ and <next> as /nekɪst/ (Broselow 1976).

Bengali

For speakers of Bengali/Bangla and its varieties there are fewer vowel problems as Bangla has seven. There are also more consonants similar to English (Miller 2008). One difference that may cause difficulty are English labio-dental and dental fricatives which are absent in Bengali (Islam 2004). These tend to be replaced with L1 phonemes as aspiration is important in Bengali, where it is phonemic. According to Swan and Smith (2001), Bengali speakers pronounce the English voiceless consonants /p, t, ʃ, k/ without aspiration in all positions.

According to Sircar and Nag (2014), Bengali allows a large set of consonant clusters in word medial positions, particularly in mono-morphemic words and particularly in onsets where three-member clusters are allowed. The only coda clusters allowed are in loan words. Similar to Arabic, Bengali learners may epenthesize, e.g. in *fr, fl, kr, gr* clusters a vowel is inserted as in /fəlɔr/ 'floor' and *sp, sk, st* where there is vowel insertion before initial consonant cluster as in /ɪskol/ 'school'.

To test what the above discussion predicts for Arabic and Bengali speakers of English, recordings were made of 16 participants (four adult male and four adult female native speakers of Arabic and one male and seven female native speakers of Bengali). Their ages ranged between 19–57 and all were living in the UK at the time of the recording. The participants were equally divided into two proficiency groups based on the Common European Framework of Reference: a) eight low-level learners (CEFR A1 or lower) who had been in the UK for less than six months, and b) eight higher proficiency learners (CEFR B1 or higher) who had been in the UK longer. We asked them to read aloud the 300 words we used in the 15 DigLin word lists. The predictions were confirmed.

8. Evaluation of the DigLin system and future perspectives

In the previous sections we have explained the rationale behind the selection of the practice materials for the four languages in the project and have provided an overview of the choices made for each of these languages. Because the four languages in DigLin occupy different positions along the orthographic transparency continuum this information can be helpful not only to teachers and researchers working on these specific four languages, but also to those working with languages that occupy similar positions on this continuum.

For those interested in employing ASR for literacy instruction, the four sections on the pronunciation errors to be expected in each L1-L2 combination indicate how relevant information can be obtained when large amounts of annotated speech data are lacking, which is unfortunately very often the case.

At the time of writing the four versions of DigLin are being tested with LESLLA learners. An important aspect of the DigLin system that has not been discussed so far is its capacity to log learner behaviour during practice. This is an interesting feature for evaluation and research purposes because it allows to gain insight not only in the results of practice, but also in the learning process. In addition, during testing speech recordings are made of all learners and these can in turn be used to gain more information on the errors made and to improve the ASR algorithms. In the near future we will be able to report on this interesting aspects of the project.

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Notes

- 1 In DigLin there are 15 sets of exercises in which a list of 20 words is practised.
- 2 SAMPA (Speech Assessment Methods Phonetic Alphabet) is a computer-readable phonetic script using 7-bit printable ASCII characters, based on the International Phonetic Alphabet (IPA).
- 3 There are two ways of seeing long and short vowels: either we can say that the long vowel (or consonant) is a sequence of two phonemes or that the long vowel (or consonant) is one specific phoneme, distinguished from the short one. Both ways are actually used in Finland. In Table 1 the representations are based on the idea that a long vowel represents two phonemes.
- 4 However, the software does not contain words with <y> and <c> in isolation (only the di- and trigraphs <ch>, <ck> and <chs> where <c> only has the orthographic function of distinguishing between <h> as /h/ or when spelled <ch> as /x/ or /ç/; in the case of <ck> it indicates that the preceding vowel is short while <k> usually follows long vowels). The sound for <c> is /k/ since

- there is no word appearing with an isolated <c>. So <ck> did not get included in the sound bar because learners can deduce how <ck> is pronounced
- 5 Similarity refers to graphic proximity such as in <o> and <ö> and to phonetic closeness in terms of mode and place of articulation according to the vowel diagram.

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INTERNET USABILITY AND RELEVANCE: PROMOTING DIGITAL INCLUSION WITH CONSUMER.GOV

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Abstract

A central concern for practitioners working with adult immigrants and refugees is the provision of information on resources and services that can support these adults in establishing themselves effectively in their new countries of residence. In their desire to disseminate such information as broadly as possible, service providers and government agencies increasingly turn to the Internet as a medium of communication. Yet the characteristics of online information presentation can impede access for the very populations that such agencies most wish to reach.

This paper outlines these characteristics of digital information provision and reviews research on usability and user experience. It then discusses ways of increasing digital equity, first through changes to web content and design and then through instruction that enables users to both find and interpret information that is relevant to them, and create content that meets their needs. Finally, it describes the specific case of a consumer protection and financial literacy information website developed for users with limited reading and digital skills by the U.S. Federal Trade Commission and the Center for Applied Linguistics (CAL). Both the web content and a set of instructional materials developed to accompany it provide examples of an approach that promotes digital inclusion through access and development of digital skills.

Keywords: Internet usability, Web user experience, digital skills, digital inclusion, digital literacy

1. The challenge of communicating on the Web

For immigrant and refugee populations in the United States, as for the U.S. population in general, information providers have come to rely heavily on the Internet for dissemination of life skills-related content. This trend is not new; in the area of health and nutrition alone, a decade-old resource for practitioners working with adults with low literacy levels (McKinney & Kurtz-Rossi 2006)

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already listed dozens of informational websites and dozens more sites with curricular materials and information for teachers. U.S. government agencies with missions that involve educating and protecting the general public are in the forefront of this type of Web-based information provision; see for example <http://www.choosemyplate.gov>, from the U. S. Department of Agriculture, www.healthfinder.gov from the U. S. Department of Health and Human Services, and www.consumerfinance.gov from the Consumer Financial Protection Bureau.

Concerns are consistently raised about the ability of adults with lower levels of literacy and educational attainment to connect with and use this material. This issue was recognized as long as two decades ago by the Children's Partnership, whose Computers in Our Future project in the late 1990's sought to reduce the digital divide by providing computers and Internet access in 11 low-income neighborhoods in the State of California. In carrying out this project, the Partnership identified a major concern: "even when community members were able to use the Internet, **they couldn't find the online information or applications they needed**" (Children's Partnership, n.d., *bolding in original*). This problem is persistent. Ten years after the Children's Partnership study, Van Deursen and Van Dijk conducted a study with adults using Dutch government websites and found that "citizens ... may not have the skills to use the online public services offered to them" (Van Deursen & Van Dijk 2009: 334). More recently, Reder has analyzed the U.S. data on problem solving in technology-rich environments from the 2011-2012 Programme for the International Assessment of Adult Competencies (PIAAC) survey (OECD 2013; OECD n.d.) and has found substantial variation in digital equity and digital inclusion on the basis of gender, race/ethnicity, and national origin (Reder 2014).

Adults who do not use the Internet also report the lack of digital skills as a major inhibiting factor. The Pew Internet and American Life Project has tracked Internet use in relation to various demographic categories since 2007, and reports specifically on adults who do not use the Internet at all, noting strong correlations between membership in this group and age (over 65), education level (less than a high school degree), ethnicity, and economic status (earning less than US \$ 30,000 per year) (Zickuhr 2013). The project asks adults who do not use the Internet to report their primary reason for staying offline, and reports the results in four categories:

- Relevance (just not interested, waste of time, don't need/want it, too busy)
- Usability (too difficult/frustrating, don't know how/don't have skills, too old to learn, physically unable, worried about viruses/spam/hackers)

- Availability/access
- Price.

Over four data collection points from 2007 to 2013, the usability factors, including lack of skills, have become increasingly salient. While usability factors as a group were selected as the primary reason for staying offline by only 15% of Internet non-users in 2007, 12% in 2009, and 18% in 2010, in 2013 usability factors were selected by nearly one third (32%) of Internet non-users. In that year, of the top five reasons selected by respondents, usability factors ranked third, fourth, and fifth, with 10% of respondents selecting "too difficult/frustrating," 8% selecting "don't know how/don't have skills," and 8% selecting "too old to learn." These non-users are clearly aware of the gap between the skill levels required for Internet use and the skill levels that they possess.

However, the Pew data also provide an additional perspective on Internet non-users. Over all four data collection points, the relevance factors as a group were selected more than any others as the primary reason for staying offline; they were selected by 47% of respondents in 2007, 35% in 2009, 48% in 2010, and 34% in 2013. In addition, in 2013 the most commonly selected reason for staying offline was one of the relevance factors, "just not interested," selected by 21% of respondents (the second most commonly selected was "don't have a computer" at 13%). Even as the salience of usability considerations has increased, therefore, the perceived lack of relevance has continued to play a major role in keeping Internet non-users offline.

With its 2005 World Report *Towards Knowledge Societies*, UNESCO made clear that the ability and willingness to use technology, particularly the Internet, have become integral to modern life because of technology's role in the transmission of information and the generation of knowledge. Digital literacy – defined as the ability to use information and communication technology and to operate in a digital environment (UIUC Library n.d.) – is thus one of the multiple interconnected literacies that are prerequisite to full participation in contemporary society (Gee 1996; Kress 2003; UNESCO 2006) and "[enable] individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society" (UNESCO 2004: 13).

Yet research shows that the digital environment remains partly or wholly impenetrable for a large portion of the population, and the evidence shows that many adults do not use the Internet because they do not perceive it either as welcoming (usability) or as having something to offer them (relevance). The remainder of this paper will outline the factors that must be considered in order to increase the usability and relevance of the Internet for these users, and then

will describe a project that seeks to address both aspects in the context of consumer financial literacy and fraud protection.

2. Literacy and usability

In their studies of users' experiences with government websites and with the Internet more generally, Van Deursen and Van Dijk have identified two responsibilities that government agencies have with regard to Internet-based information transmission. First, if agencies expect users with limited digital skills to understand information and complete tasks (such as filling out forms) online, they must provide an online experience that is designed to meet the needs of such users. Second, they must provide learning opportunities that enable citizens to develop their digital skills further (Van Deursen & Van Dijk 2009; Van Dijk & Van Deursen 2014).

With regard to the first of these responsibilities, critiques of the Internet have long focused on content-related issues. For example, in the early 2000's the Children's Partnership identified barriers to Internet use in terms of deficiencies in the content of health-related websites and noted the following needs:

- Content designed for users with limited literacy skills
- Content in multiple languages
- Local information that enables users to address everyday needs
- Content that is culturally relevant
- Content that is accessible to those with disabilities

(Children's Partnership 2000; 2002)

In addition to considerations of language level, relevance, and appropriateness such as those articulated by the Children's Partnership, Van Dijk and Van Deursen (2014) observe that the technology itself needs to be applied more effectively to support users and improve their online experience. They suggest that websites could be designed in ways that are more intuitive and thus reduce the level of digital skill (or competence) required to use them successfully.

Improving the online reading and digital experience for users with limited literacy skills involves understanding how such users currently use the Internet. In the United States, some user experience (UX) research has looked specifically at the ways in which adult readers with lower literacy levels approach and experience websites. Initially, this work focused primarily on users' experience with content. For example, in a small observational study on the usability of health information websites, Birru et al. (2004) determined that adults reading

below the secondary school level “did not use optimal search terms to answer questions, encountered difficulties finding health information at the appropriate reading level, and were unable to successfully interpret Internet health information as it was presented.” Study subjects also had difficulty formulating search terms that would produce specific results.

More recently, UX researchers have used eye tracking technology to assess the ways in which adults with limited literacy experience the form and structure of web pages as well as their content (Colter & Summers 2014; Nielsen 2005; Summers & Summers 2005). These researchers have identified several characteristics of such users’ reading behavior:

- They read every word, and fixate on each word longer than readers with higher literacy levels do.
- They re-read both text and interface elements such as navigation tabs multiple times.
- They skip words and sections of text; they may skip headings, initial sentences, and other text elements that could guide their reading.
- They select the first material that appears to accomplish their reading purpose, rather than reviewing and evaluating multiple options.
- They are distracted from reading the main text by other elements on a web page.

Each of these behaviors has parallels in the ways that adults with lower literacy skills approach print material; these readers must focus so much cognitive effort on decoding and word recognition that they read too slowly to obtain much meaning (Anderson, Heibert, Scott, & Wilkinson 1985; Doak, Doak, & Root 1996; Kurvers 2007; Van de Craats & Peeters 2013). However, the challenge for such readers is exacerbated on the Internet by the fact that words on a web page may function as headings, logos, navigation labels, hyperlinks, or advertisements, in addition to or instead of being conveyors of content. The reading task is thus complicated by the digital literacy context, which creates the need to identify each word’s function as well as its meaning. Furthermore, web content is not necessarily persistent. “There are many pages which have content that seems to be permanent, yet are found to have altered on subsequent viewing because they have been refreshed by the website owner” (Crystal 2011: 31). This feature adds an element of unpredictability that further complicates reading for those with low reading and digital literacy skills.

On the basis of their observations, UX researchers have provided a number of guidelines on both content and design for website creators who wish to ensure that their sites are accessible to all users, regardless of their levels of

reading proficiency and digital skill (Nielsen 2005; Summers & Summers 2005). These guidelines address web design and layout considerations, as well as language complexity factors, to aid developers in creating sites that support users in locating and interpreting information. In addition, to support website development that addresses the needs of users with limited reading and digital proficiency, the U.S. federal government has created resources on using plain language (www.plainlanguage.gov) and improving usability (www.usability.gov), as well as a resource site on digital literacy for the general public (www.digitalliteracy.gov).

However, practitioners continue to warn about the challenges inherent in navigating and understanding government websites (see, for example, Long, Shartzer, & Politi 2014). In addition, the U.S. results from the 2011-2012 PIAAC survey indicate that a substantial portion of the population still lacks the essential skills in literacy, numeracy, and problem solving in technology-rich environments that would enable, among other things, effective use of the Internet (OECD 2013; Reder 2014). Opportunities for adults to develop their digital competence are thus the essential counterpoint to the improvement of the digital environment itself.

3. Literacy and the development of users' digital skills

The need to incorporate development of digital skills in education at all levels has long been understood. Recognition of the multifaceted nature of digital competence has led researchers and educators to develop skills taxonomies in order to provide comprehensive yet manageable ways of approaching digital skills development. For example, Ilomäki, Kantosalo, and Lakkala (2011) define "digital competence" in terms of four main areas:

Digital competence is an evolving concept related to the development of technology as well as the political aims and expectations for citizenship in a knowledge society. It consists of a variety of skills and competences, and its scope is wide, covering media and communication, technology and computing, literacy, and information science. As an interpretation and summary of connecting the different approaches, we suggest that digital competence consists of 1) technical skills to use digital technologies, 2) abilities to use digital technologies in a meaningful way for working, studying and for everyday life in general in various activities, 3) abilities to critically evaluate the digital technologies, and 4) motivation to participate in the digital culture. Digital competence is regarded as a core competence in policy papers; in research, however, it is not yet a

standardized concept.

(Ilomäki, Kantosalo, & Lakkala 2011)

In their early work, Van Deursen and Van Dijk (2009) also articulated four skill areas; they have since added two (communication skills and content creation skills):

- Operational skills, including the ability to operate an Internet browser, use online search engines, and complete and submit online forms
- Formal skills, including the ability to navigate by recognizing and using hyperlinks and the ability to stay oriented when surfing within and between websites
- Information skills, including the ability to choose a search engine, create search queries, and select and evaluate information sources
- Communication skills, particularly the ability to send and receive information on the Internet
- Content creation skills, particularly the ability to develop and post material on the Internet
- Strategic skills, including the ability to take advantage of the Internet by setting a goal and taking actions and decisions that promote goal achievement.

(Van Dijk & Van Deursen 2014: 6-7)

Such skills lists or taxonomies are continually evolving, as educators and researchers recognize new areas of importance (for example, awareness of online security). They also are of limited use in working with adults with limited formal education because they typically encode expectations about fundamental literacy and numeracy skills in descriptors such as “use online search engines,” “complete online forms,” and “create search queries.” For example, the Digital Skills Framework for the Canadian Workforce (Chinien & Boutin 2013) distinguishes four skills clusters:

- Digital information processing skills
- Digital technical skills
- Transversal skills (thinking/problem solving, continuous learning, working with others)
- Foundational skills (reading, writing, oral communication, document use, numeracy).

Chinien and Boutin describe the foundational skills as prerequisite to digital literacy skills; they are the “gateway basic literacy and numeracy skills

components for which there is often or always a minimum proficiency level required before someone can engage with digital technology and demonstrate or develop the more precise digital information processing skills.”

The Open University’s Digital and Information Literacy Framework (Open University 2012) similarly takes reading, writing, and critical thinking as prerequisites for the development of digital skills, reflecting the Framework’s use in the context of postsecondary education. The Framework is divided into five competence areas:

- Understand and engage in digital practices
- Find information
- Critically evaluate information, online interactions and online tools
- Manage and communicate information
- Collaborate and share digital content.

The level of reading proficiency assumed by the Framework, even at the Access (lowest) stage, is fairly high; for example, in the Find Information competence area, the Access stage includes the following abilities:

- Successfully follow instructions for searching within a website using the guidance provided.
- Distinguish between websites created for different purposes.
- Successfully carry out a basic search for information on the web on a pre-defined topic, using the guidance provided.

These taxonomies set relatively high levels of reading and writing skills as prerequisite to the development of digital skills because they take typical Internet content, such as that critiqued by the Children’s Partnership (2003) and by Van Deursen and Van Dijk (2009), as their starting point. These taxonomies thus seek to provide ladders that move learners upward through progressively more complex applications of digital skills, with the goal of becoming fully engaged members of the knowledge society.

This essential relationship between literacy and digital skills is confirmed in the work of Van Deursen and Van Dijk (2009). They created test tasks for each type of digital skill and used them with subjects of varying backgrounds. For all digital skill types, they found that educational level attained was the single most important correlating factor. “All performances, both in the number of tasks completed and amount of time spent on tasks ... are significantly different for people with high, medium and low education” (Van Deursen & Van Dijk 2009: 337). They reiterate this point in further work, noting that “the most important

factor—influencing all types of Internet skills—is the level of educational attainment” (Van Deursen, Van Dijk, & Peters 2011: 137). They further observe that adults increase their medium-related skills (operational and formal skills) through practice and trial-and-error approaches, but not their content-related skills (information and strategic skills).

This latter point is highly salient for the acquisition and use of digital skills by adults with limited or no formal education. According to the Van Deursen – Van Dijk research, these adults may develop skills in Internet operation and navigation through informal approaches such as trial-and-error or asking a friend, but they are unlikely to develop their content-related skills (such as selecting and evaluating information sources) in these ways. If users with limited reading skills are consistently unable to locate and interpret information that meets their needs despite continued practice, this experience is likely to reinforce the perception that the Internet is not relevant to them.

Formal instruction can guide these adults as they develop the ability to find, interpret, share, and create Internet content effectively – that is, as they both discover and create the Internet that is relevant to them. It thus can remedy the inequities of access that Besser (2001) predicted would exacerbate broader social disparities by privileging users who already reside on the “have” side and closing out those who reside on the “have not” side. This perspective on the goal of digitally focused instruction aligns with critiques from the fields of language education and immigrant integration of the sociocultural contexts in which literacy-related policies and practices are developed and implemented. When such policies and practices emphasize learning and communication models characteristic of the education system to the exclusion of those that come from community and other contexts, they exclude those with needs and goals other than those of the mainstream (Auerbach 1989; Wiley 2005).

To be broadly inclusive and supportive of all Internet users, then, policies and practices must connect the improvement of Internet usability with the development of Internet users’ digital skills. Internet content and design must move beyond established patterns and reach users where they are, using linguistic, cultural, and technological tools to support the user experience. In addition, training in digital skills must enable users to interpret and act on the content they find, but also must give them the tools they need to create content themselves, bringing their own cultural and community perspectives into the mix to create an Internet that works for them.

4. **Consumer.gov and Consumidor.gov: Increasing usability**

In the United States, one agency that is actively seeking to both increase the usability and relevance of its Internet-based communications and provide opportunities for users to develop digital skills is the U.S. Federal Trade Commission (FTC). The Division of Consumer and Business Education within the FTC's Bureau of Consumer Protection is charged with providing information that enables consumers to recognize and deal appropriately with "unfair, deceptive, and fraudulent business practices" (<http://www.ftc.gov/about-ftc/bureaus-offices/bureau-consumer-protection>). The Division recognized that adults with limited formal education were at greatest risk of becoming subject to unethical business practices; all were affected by identity theft and unethical / illegal credit card and loan practices, for example, while immigrants were also subject to *notario* fraud and money wiring scams. However, Division staff learned from legal services attorneys and other service providers working with these clients that its Internet- and print-based informational materials were not accessible to these consumers—the users who needed them most.

To address this situation from the website design side, Division staff partnered with the Center for Applied Linguistics (CAL) in 2011-2012 to develop an information resource intended specifically for users with limited reading proficiency. The resource consists of parallel websites in English (www.consumer.gov) and Spanish (www.consumidor.gov) that provide consumer information on personal finance and fraud protection topics. Topic selection was guided by need, as measured by the frequency of complaints and questions received from service providers, including legal aid attorneys, and their clients. In the site creation process, CAL provided workshops and individual mentoring on writing content and designing interfaces for readers with limited educational backgrounds. Division staff served as the content experts who did the actual writing and design.

Consumer.gov is designed for both native and non-native speakers/readers of English, while Consumidor.gov is designed for native speakers/readers of Spanish with limited formal education. The sites follow recognized best practices in web design (Morris 2015), with navigation that is transparent and simple to use, layout that includes a high percentage of white space and minimal distractions, and language that keeps sentences short, uses bulleted lists, and controls the amount and type of vocabulary (Figure 1).



Figure 1. Screenshot of the Consumer.gov “Scams Against Immigrants” topic page, showing the site’s use of color and icons in the top navigation; its use of simple What It Is / What To Know / What To Do navigation within the topic page; its simple layout with a high percentage of white space; and its use of short sentences and bulleted lists in the text.

The English and Spanish sites are exactly parallel in structure and content, with three main sections:

- Money Management / Manejar su dinero
- Credit, Loans, and Debt / Crédito, préstamos y deudas
- Scams and Identity Theft / Estafas y el robo de identidad.

Each of these sections contains information on several financial literacy and consumer protection topics; for example, the Credit, Loans and Debt / Crédito, préstamos y deudas section addresses these topics:

- Your credit history / Su historial de crédito

- Using credit / Usar el crédito
- Payday loans and cash advances / Préstamos de día de pago y anticipos de dinero
- Car title loans / Préstamos con título de propiedad de un carro
- Managing debt / Manejar las deudas.

For each topic, information is provided on three pages:

- What it is / Qué es
- What to know / Qué saber
- What to do / Qué hacer.

The site design uses a three-part color scheme and distinct icons to identify the three main sections. These visual features and the simple, consistent site architecture support the user in locating needed information, returning to it later, and identifying related material. A language toggle button appears in the upper right corner of each webpage, allowing the Spanish-speaking reader to use both languages as needed to ensure comprehension. Additional buttons to the left of the main text allow the user to adjust the text size and to print directly from the screen.

Although constraints on available resources limited the degree to which visual and interactive features could be incorporated, the sites use multimedia in several ways to support the user. A “listen/escuchar” button on each topic page allows users to hear the text read aloud exactly as it appears on the screen. In addition, several topic pages have simple embedded videos that tell and illustrate short stories relevant to the topic. For example, the page “Evitar el robo de identidad: Qué es” contains a video that tells the story of Linda, who, although she has never had a credit card herself, discovers that someone else has stolen her identity and has taken out eight credit cards and an auto loan in her name. The video ends happily as Linda succeeds (after much effort) in clearing her credit history.

The FTC has also produced print versions of the “What to do” site pages in both languages. These pages, which match the websites in color and layout, are freely available through bulkorder.ftc.gov to residents of the United States. Both web metrics and requests for print materials since the sites’ launch in early October 2012 indicate high degrees of user interaction and satisfaction. Not surprisingly, the “listen/escuchar” buttons have some of the highest click levels. Requests for print materials indicate interest and use by both adult educators and school guidance counselors.

In 2014, CAL provided technical assistance to the Division as it conducted a small usability study on the sites. The study involved eight native English speakers in adult basic education programs who tested on the English site; 8 native Spanish speakers with limited educational backgrounds who tested on the Spanish site; and 8 native Spanish speakers in ABE/ESL programs who tested on the English site. In the study, researchers (from Spark Experience in Bethesda, Maryland) asked participants to complete a short series of information location and site navigation tasks, using a combination of eye tracking and stimulated recall to gather data. For both sites, the study outcomes were highly positive. While the eye tracking data showed many of the movements characteristic of low-level readers, as described above, study participants were able to complete most navigation, information finding, and information recognition tasks on the sites with a high degree of success.

5. Consumer.gov and Consumidor.gov: Educating for improved user experience

While the outcomes of the usability study were encouraging, they were based on the experience of a limited number of users, all of whom possessed both basic literacy skills and some prior experience in navigating the Internet. These participants were able to identify the main content focus of the site and to complete most of the navigation and information location tasks given to them by facilitators, but in most cases they needed to explore the site and work on tasks for at least ten minutes before they began to see the site's direct relevance to them. This led the FTC to two observations:

1. That adults with very limited literacy and little or no digital experience, such as LESLLA learners, would still need support to be able to use the sites
2. That even adults with basic levels of literacy and digital skills might need support in making connections between the site content and their own situations

Furthermore, after careful consideration, FTC Division of Consumer and Business Education staff acknowledged that the nature and legal ramifications of some topics addressed on the sites would require a certain level of complexity in the site content. This meant incorporating scrolling and other features that are challenging for users with limited reading proficiency or digital skills to manage. Thus, particularly with regard to adults at the basic and below basic levels

(NCES 2003), including LESLLA learners, the FTC realized that it needed to support the development of learning opportunities for users of Consumer.gov and Consumidor.gov.

In 2014-2015 the Division has therefore sponsored development of a series of teaching materials that guide teachers and tutors in using the Consumer.gov and Consumidor.gov sites with adult learners. The materials for Consumer.gov include a multi-session lesson plan for each topic that combines content learning objectives in financial literacy and fraud awareness, English language learning objectives in listening, speaking, reading, and writing, and Internet navigation/awareness objectives. Those for Consumidor.gov include a multi-session lesson plan for each topic that combines content learning objectives in financial literacy and fraud awareness, Spanish reading skills development objectives, and Internet navigation/awareness objectives.

The teaching materials draw on research in adult second language acquisition and adults' development of literacy in the first and second language (Burt & Peyton 2003; Burt, Peyton, & Adams 2003; Burt, Peyton, & Schaetzel 2008; Curtis & Kruidenier 2005; Herman et al. 2013; Kruidenier 2002; Moss & Ross-Feldman 2003). The materials for Consumer.gov focus on developing English reading proficiency in both native and non-native speakers of English, while the materials for Consumidor.gov promote development of reading proficiency in Spanish for native speakers with limited educational experience. The teaching materials will be available in pdf format for online reading or free download, with technology-enabled activities relying on the Consumer.gov and Consumidor.gov sites themselves; funding considerations prevented the development of interactive lesson plans and teaching activities.

The lesson plans that form the main body of the teacher materials for Consumer.gov address the needs of teachers and tutors working with low-educated adult English learners: those who have had primary education in the first language and thus can read at or above the average primary school level in that language (Van de Craats, Kurvers, & Young-Scholten 2006). The plans provide guidance on tailoring activities to the needs and skill levels of these LESLLA learners using the following techniques:

- Elicitation of learners' current knowledge and understanding, as well as their past experiences, as the foundation upon which new learning can build
- An initial focus on development of oral English skills using language pertinent to the topics on the site
- Scaffolding from the learners' first language where possible, particularly from Spanish to English

- Using repetition and redundancy to pace instruction.

The population of adult LESLLA learners in the United States also includes two other groups identified in the typology outlined by Van de Craats, Kurvers, and Young-Scholten: those who have had some schooling in the L1 but read below the average primary school level, and those who have never attended school and have not developed reading/writing skills in any language. For teachers working with such learners, the materials focus on developing the basic concepts that inform the ability to read in an electronic environment. Some activities address fundamental concepts of literacy (such as letter v. word v. sentence; meaning of the spaces between words; starting point, directionality, and return sweep; significance of punctuation) in the context of electronic presentation, so that learners develop a sense of how an online publication (website) works in the same way they would develop a sense of how a print publication (book, magazine, newspaper) works. Other activities focus on the user interface, providing focused tasks that help learners understand what they are seeing when they look at a website.

- Visual activities in which learners look at the site's main page (Figure 2) and talk about how it uses colors, comparing the look of the home page with the look of three differently colored file folders stacked one behind the other
- Listening activities in which learners listen for a specific phoneme or word as the teacher reads part of the text of a page or plays the recording
- Visual activities in which learners look at the icons on the site and interpret their possible meanings in different cultural contexts (Strube, van de Craats, & Van Hout 2009)
- Listening/visual activities in which the learners listen for specific phonemes or words as they watch part of one of the videos on the site
- Visual/kinesthetic activities in which learners practice (on computer) using the scroll bar and mousing over different parts of the site to see what happens (how the site shows the location of the mouse pointer; what happens when the mouse is clicked)
- Visual activities in which learners look at a topic page on the site and in print (for example, the "Scams against immigrants – What to do" page in Figure 1) to identify things that appear on the site but not on the print page and learn to recognize these as site navigation and other tools

In all activities, teachers and tutors are encouraged to pace instruction carefully and to repeat activities multiple times so that learners' comfort levels and sense of control increase. This process gives learners the foundation for continued exploration on their own, enabling them to take advantage of informal and commonly utilized ways of developing digital and literacy skills (Van Dijk & Van Deursen 2014; Van Deursen, Courtois, & Van Dijk 2014).

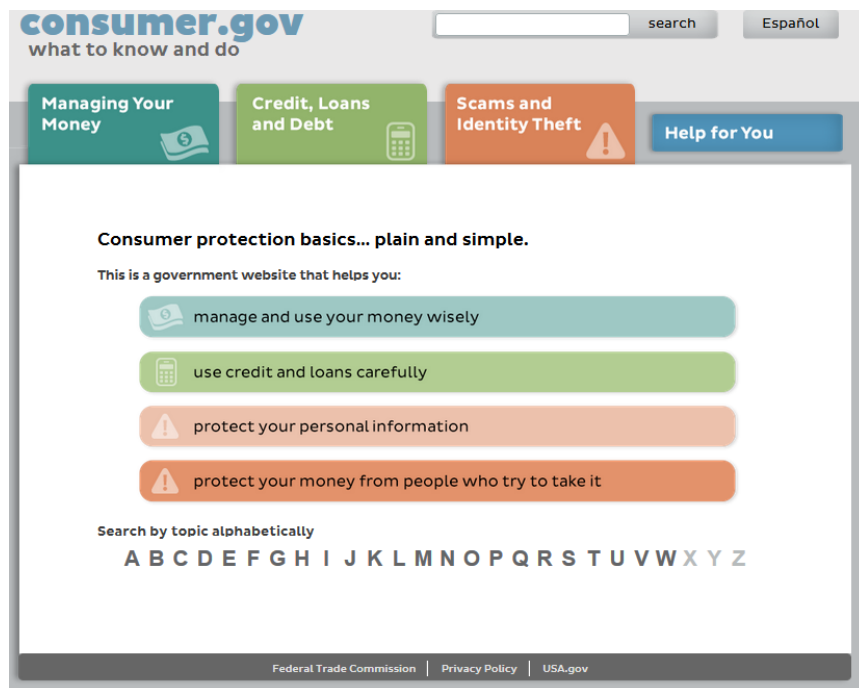


Figure 2. Screenshot of the Consumer.gov Home Page, showing the site's use of color and icons to identify three different topic areas. The materials for use with low-educated learners will include visual and kinesthetic activities in which learners relate colors to categories and connect the visual representations on the screen with physical items (such as file folders and money) and with other uses of the same iconography in learners' physical environment.

Finally, the materials encourage teachers to draw on their learners' own knowledge and experiences to create learner-generated texts related to the Consumer.gov topics. For example, teachers may use one of the videos on the site and then elicit a related story from their learners, which can then be used as

a teaching tool both in print and on the computer (Bigelow & Vinogradov 2011; New American Horizons Foundation 2010; Vinogradov 2009; Vinogradov & Bigelow 2010). Adventurous teachers may initiate class projects in which learners develop the material for a website of their own, using a free platform such as WordPress to create a blog on money management and other financial literacy topics and thus becoming not just users, but “active creators and distributors of information” (Besser 2001).

The use of the Consumer.gov website in instruction for LESLLA and other adult learners will connect their language and literacy learning with their lives and experience, providing the real-world context that research has shown can promote skills development (Condelli & Spruck Wrigley 2006, 2008; Van de Craats, Kurvers, & Schöneberger 2010). Perhaps more importantly, it will demonstrate the nature of literacy as a functional social practice (Wallace 2008), showing learners that they can both develop digital and reading competence and use those competencies to manage and improve their lives.

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NON-LITERATE ADULT IMMIGRANTS FROM ETHIOPIA IN ISRAEL LEARNING TO READ AND WRITE IN A SECOND LANGUAGE¹

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Abstract

The present article describes an innovative program for second-language instruction targeting adult immigrants from Ethiopia in Israel, who have limited first language literacy. This program is based on theory and empirical research in the areas of brain studies, literacy and second language instruction, as they pertain to the case of semi-literate adults in the context of migration. The implementation and evaluation of this program in the framework of immigrant language classes are described here, in an attempt to gain a better understanding of the challenges facing program developers, teachers and learners in the field.

Keywords: second language, adult literacy, Ethiopian, illiterate immigrant

1. Ethiopian immigrants in Israel

Second language acquisition is a primary challenge faced by all migrants worldwide, one that is more acute for adults and especially for those who have limited literacy in their first language (Schöneberger, Van de Craats, & Kurvers 2011). The present study targets Jewish adult immigrants to Israel from Ethiopia who have limited or no written literacy in any language. Most of them lived in rural villages with poor written landscape and leaned on traditional oral culture (Ben Ezer 1992; Levin-Rozalis 2000). They practiced biblical Judaism, but had very little knowledge about the Israeli culture and lifestyle. They are returnees to their country of heritage and are driven by religious and ethnic ideology. In Israel, they often reunite with their relatives and join the larger community of immigrants. Due to the stress of immigration, and the extensive differences between the rural culture of their country of origin and that of the host modern society, many Ethiopian immigrants suffer from a cultural shock. Consequently, many of the elderly members of this community failed to assimilate in the

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Israeli society and encountered many difficulties especially with literacy acquisition.

During their first two years in Israel, the immigrants usually live in "absorption centers" financed by the state. These centers often constitute an ethnic enclave, but at the same time provide a variety of support systems - one of which is the Hebrew Language Ulpan (the language school for immigrants). They are provided with basic living conditions and supplies for the first twelve months, so as to enable them to adjust to the new country and to devote most of their time to learning the language. Unfortunately, since they are not literate, this period of study is insufficient. Reading and writing are important skills for survival in a literate environment, but these learners, having no knowledge of the new language, first need to acquire some basic oral skills. Non-literate adults usually achieve only limited communication in Hebrew by the end of the course and most of them will need to continue to focus on reading and writing in Hebrew after moving to their permanent residence.

2. The ULPAN – Acquiring the target language

The Hebrew Language Ulpan is a governmental intensive Hebrew language school for immigrants from diverse countries around the world. The Ulpan structure and curriculum are adjusted to the needs of the different target populations. As such, immigrants from Ethiopia to Israel receive an intensive ten month course rather than the regular, five month course developed for other immigrants. The objectives of the course for immigrants from Ethiopia are two-fold: Hebrew language acquisition and the study of Judaism. At first, there is an emphasis on survival skills and everyday skills, taught in Amharic, followed by basic Hebrew instruction, preparing the immigrants for life in a modern literate environment. Likewise, subject matter relating to Judaism, civics, heritage studies, etc. is initially taught in Amharic and later Hebrew is introduced as the language of instruction.

The challenge for nonliterate adults learning to read and write for the first time in a new and unfamiliar language is great. As such, The Ulpan curriculum, especially designed for the Ethiopian community, focuses both on the development of basic communication skills in Hebrew and the introduction to cultural and social concepts needed for the acquisition of the language (Rubinstein 2014; Ulpan Curriculum for newcomers from Ethiopia 1999, 2014). Unfortunately, in spite of the special curriculum and language materials, most of the adult Ethiopian immigrants remain unable to read and write. Consequently, a revision of the existing model of literacy teaching for this population was

necessary and an alternative communicative-multicultural-neuropsychological model was developed for promoting literacy and vocational skills (Kotik-Friedgut, Schleifer, Golan-Cook, & Goldstein 2014).

Following are some neurological factors that impede successful language learning and have to be dealt with in order to achieve progress in literacy acquisition.

3. Brain mechanisms of reading

Without understanding "brain architecture" we cannot approach the issue of adult illiteracy (Abadzi 2005). Acquisition of literacy requires the development of a new functional system, which creates and strengthens connections between brain zones responsible for visual, auditory and kinesthetic operations. All of this is possible thanks to the human feature of lifelong plasticity of the brain. Although plasticity is much higher in childhood, the adult brain is also capable of change. At the same time, the case of the 'illiterate brain' is unique, and should be given special attention when planning second language programs which include learning to read and write in the new language, without written literacy in the mother tongue.

When approaching the acquisition of literacy, we usually distinguish between the mechanics of reading, the early stage of decoding, and reading for comprehension - when decoding has been mastered and the readers gain meaning, information and knowledge from reading. For literate adults who have acquired all the necessary skills for reading in a first language, the acquisition of decoding skills when moving from one alphabetic system to another is a relatively easy task. For illiterate adults, on the other hand, decoding of the written text is a new experience and we need to find ways in which they can develop this skill, while in the process of acquiring a new language.

Castro-Caldas and colleagues (1998) claim that learning the written form of language (orthography) interacts with the function of oral language. For that reason, it is important to start any reading literacy program by focusing on the development of oral language skills in the language being taught. Perfetti (2014) supports this stance in emphasizing that learners need to have a grasp of the phonemic system in order to develop phonemic awareness needed for reading. Dehaene et al. (2010) found that changes occur in adult brain processing in response to speech and writing, even when literacy was acquired in adulthood, indicating that adult education can profoundly refine cortical organization.

The examination of the perceptual and language skills of non-literate and late-literate adults of Ethiopian origin (Stoppelman et al. 2013) shows that in the language domain, late-literates outperformed illiterates on most phonological, verbal span and naming measures, excluding only naming performance in Amharic and performance on the phoneme isolation task.

Poor performance of illiterate subjects was also observed by Ardila, Ostrosky, and Mendoza (2000) on several neuropsychological tests. These observations prompted their development of a method for learning to read, called NEUROALFA. This method seeks to reinforce these particular undeveloped abilities during the process of learning to read. Neuroalfa has proven to be significantly more effective than traditional methods in teaching illiterate Mexican adults (Ostrosky, Ardila, & Rosselli 1999). These findings show that in order to enhance the phonological awareness of illiterate adults in the framework of second language instruction, learners need practice first in their mother tongue (L1), before moving to the second language (L2). This includes, for example: phoneme discrimination, phonemic fluency, phonological similarity, decomposition of words to sounds-syllables and phonemes and grouping of words with common phonemes. Moreover, these findings revealed the importance of reinforcing visual perception and cognitive operations related to reading and writing, including special activities aimed at enhancing visual letter discrimination.

Finally, research shows that in the case of illiterate adults who are learning to read for the first time, much effort and time may be necessary to develop cortical sensitivity to written words (for a comprehensive review of functional and anatomic differences between literate and illiterate learners, see Ardila et al. 2010). As a result, before starting to teach the letters our program incorporated activities aimed at developing sensitivity to print using the learners' L1-Amharic. Such activities included discussions addressing the purpose of printing, the comparison between drawing and writing, and the definition of concepts such as sounds, letters, syllables and words.

All the above abilities are well connected to the process of learning to read and need to be strengthened in adults who have never learned to read and write during their childhood.

4. The "Orit" Program²

4.1. Principles

The "Orit" program was developed as part of the process of developing the communicative-multicultural-neuropsychological model for teaching Hebrew literacy to non-literate Ethiopian immigrants. Therefore, it combines the long-standing experience gained by Ulpan educators with the latest ideas and studies in second language teaching and the role of brain plasticity in literacy development, as described above.

Several key principles underlie the program:

1. In order to ease the cultural and social adjustments of the immigrants to the new host country, the program tries to relate to the original culture. Culturally adjusted learning materials, teaching-learning-evaluating strategies and discourse patterns can reduce frustration and increase motivation among learners of a second language who suffer from low learning image (Dörnyei 2014; Gardner & Lambert 1972; Gardner & Tremblay 1994; Kotik-Friedgut 2003). For example, we rely on the immigrants' rich tradition of oral knowledge and their prolific use of proverbs, recited often at the start of a narrative to enhance their high order thinking skills. Their use of proverbs is their unique way of not explicitly expressing main ideas. By doing so they enable their listeners to infer the main idea from the context of the narrative- an important skill for language comprehension. The proverbs are usually aimed at developing persistence, diligence and restraint. We use them in our classes in order to connect with the learner and tap into his previous knowledge, as well as to promote learner motivation to continue their studies in spite of their many difficulties. Moreover, the use of culturally familiar discourse patterns strengthens the development of high-order thinking skills (Schleifer 2014).
2. In many L2 adult language classes, L1 is considered as a valuable educational tool. The use of the first language has many benefits, especially with those who rarely speak in class (Duff & Polio, 1990), from social and psychological perspective, shown by an increased feeling of self-efficacy, motivation and cultural pride (The Center for Literacy of Quebec 2008; Condelli & Spruck Wrigley 2006) to cognitive and linguistic levels, exhibited by better language achievements and high order thinking skills (Kim & Elder 2008). The Amharic language is used in order to ensure that learners understand the instructions and the content of each session, discuss the target culture, motivate the learners to use L2, explain grammar, comment on the learners'

process of learning, additional knowledge and on their achievements in every session. (See Figure 1.)



Figure 1: The presenters of "Orit"

3. In order to provide learners with a feeling that they can cope with survival issues, the program focuses on basic language skills related to the immediate environment. As such, a limited vocabulary, which consists of 350 items, was chosen on the basis of frequency and survival-oriented content. They listen to and role-play dialogues that are relevant to their daily life.
4. In order to enhance letter-recognition and in preparation for reading, learners are given many opportunities to write.
5. The program is blended in nature, including web-based support with focus on letter shapes on the screen and learners attention to accompanying sounds. The program therefore, consists of a combination of digital and printed materials, computer software, printed booklets and a teacher guide. (See Figure 2.)
6. In the ideal situation, there are two teachers teaching as a team; a native speaker of Amharic who is also fluent in Hebrew and a professional, adult education teacher who is a native Hebrew speaker. Together they make sure that learners have a chance to hear things both in their native Amharic and in Hebrew, spoken by a native Hebrew speaker.

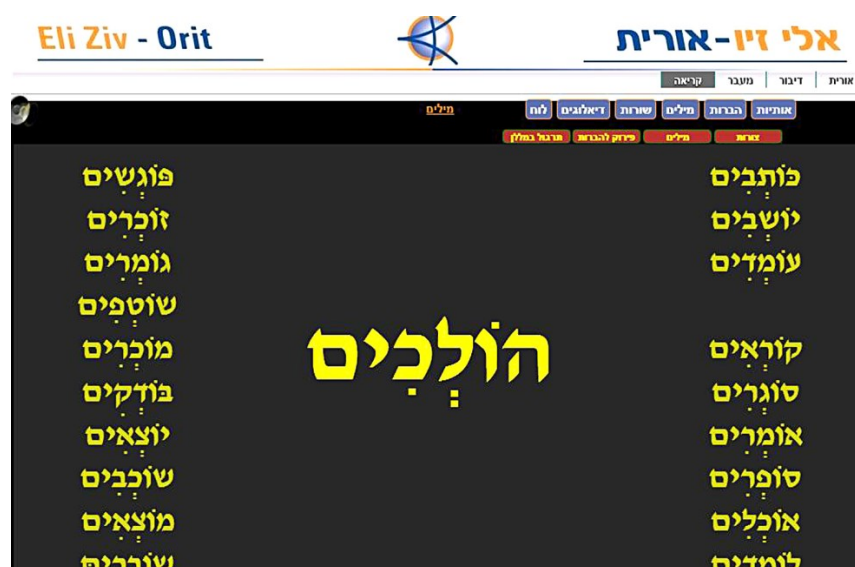


Figure 2: Word recognition in "Orit"

4.2. Structure of the program

The program starts with a preliminary phase, mostly in Amharic, which aims at developing print sensitivity, phonological awareness and visual perception of shapes and figures. Visual perception was strengthened using pictures that demand simultaneous synthesis (pictures by Octavio Ocampo carefully selected for cultural appropriateness) and visual thinking (pictures from Akhutina & Pylaeva 2012), as well as copying of two-dimensional figures and practicing sequences of shapes.

Some basic vocabulary items and useful expressions in Hebrew are taught in order to establish an oral basis of the second language upon which reading and writing skills can be developed.

The early phase of the program focuses on video clips, presented on a full screen in class, representing daily, authentic, interaction among Hebrew speakers from Ethiopian background. These are natural dialogues enacted by characters with whom the learners can identify since they look, speak and behave in a manner similar to their own. Even the Amharic accent helps them feel comfortable trying to imitate these dialogues. Furthermore, these dialogues are "survival-related" and highly relevant to newly arrived immigrants:

shopping at the grocery, communicating with a physician, renting an apartment, looking for a job, etc.

Each video-clip is presented first in Amharic and then in Hebrew. The learners are required to listen carefully and only after a few presentations to repeat the dialogues in Hebrew and answer simple questions. The language content of these dialogues will foster the initial knowledge in Hebrew before they start the mechanics of reading (Perfetti, 2014). The use of Amharic is gradually reduced in order to provide learners with the opportunity to feel success in the new language and gain further motivation.

In the second phase of the program, most of the focus is directed towards the mechanics of reading: letter-recognition, letter discrimination, and syllable recognition and sound-to-letter correspondence. The computer screen has a vital role in training for visual perception and phonological awareness at the same time. Letters appear on the screen in different locations, they are moved across the screen, they vary in size and color as well as in time and rate of appearance. The teacher has control of these activities and can adjust them to the interest of the learners. Each letter is presented with its sound and name. Learners are asked to write the letters in the air with their right hand, followed by using the left hand and finally using both hands. This seems important since these adults have never experienced writing before.

It seems that without such an effective use of the screen and of the simultaneous sound-letter correspondence, it takes much longer for illiterate adults to acquire these early steps of the mechanics of reading. Although other programs often use the best conventional printed material and flash cards or other such teaching aids, nothing can be as powerful as the digital component. It often takes three months and more to acquire the early skills while learners find it difficult to link sounds to written letters (Gombert 1994; Peleg 2000). We believe that the "Orit" software presents more interesting activities and more efficient embedding into short and long-term memory.

In the third phase the emphasis moves from letters and syllables to whole words. In this phase words appear on the screen in different locations and colors. In the fourth phase the focus moves on to whole sentences and eventually to dialogues and short texts, all kept within the 350 words intended for this course of study. First, they read the dialogues, which they used to practice in the initial part of the course, and then they begin to read unfamiliar texts.

All learners have notebooks in which they write from the start. First, they write letters in order to improve letter-recognition, and then they write words and answer simple questions.

Each lesson in the "Orit" program ends in a reflective feedback session, where learners recount (in Amharic) their achievements as well as the difficulties they

encountered during the lesson. They also express their desires with respect to things they wish to learn in future lessons.

4.3. "Orit" program evaluation

Methodology

Research goal

The "Orit" program was accompanied by ongoing, formative evaluation research, aimed at assessment of both its implementation process and its expected outcomes with regard to learners: improvement of cognitive and language proficiency skills, more positive attitudes towards Hebrew, and improvement in perceived Hebrew language proficiency after completion of the Ulpan (Golan-Cook, & Goldstein 2012).

Participants

Our sample included 63 learners in the program classes and 61 learners in comparison classes, who attended three Ulpan classes in three different places/absorption centers in Israel. The average age of learners was approximately 34 and 32 for the program and comparison groups respectively. Gender distributions were somewhat balanced in both groups: in comparison classes 51% were female participants, as compared with 45% in the program group. Length of residence in Israel was also similar for both groups, whose participants had arrived in Israel about two years prior to commencement of the program. The duration of the program was between 160 and 190 hours. The average amount of time spent formally studying Hebrew was also the same for both groups of learners. Finally, Literacy Levels of both groups of learners were similarly low, as most had no formal schooling in Ethiopia and were illiterate in Amharic. Both groups were sufficiently similar on relevant demographic criteria to measure the comparative achievements of the groups, thus allowing us to test the effects of the program. 71% of the program group and 64% of the comparison group participated in the post-survey, our tool for measuring achievement. While full research participation of the program group was higher, the differences between the groups were not significant and did not prevent an unbiased comparison.

In both groups native Amharic and Hebrew speaking Ulpan teachers presented the learning materials in cooperation with native Hebrew speaking Ulpan teachers. Teachers' training in the program classes consisted of a 28 hours course, and on-line guidance via e-mails, phone calls and a teachers' web site. In

addition, two meetings with the developers and supervisors of the program were held in each of the research classes.

Instruments

Program implementation was monitored and evaluated through on-going interviews with teachers, Ulpan principals and accompanying staff; intermittent observations of the program in progress; and teacher feedback questionnaires administered to teachers in both program and comparison classes at the end of the Ulpan program. These open-ended questionnaires addressed their experiences with program implementation, the materials and methods used in both the intervention programs and the regular Ulpan and student responses to these innovations. An updated report on drop-out rates was also obtained.

Program outcomes were measured by a series of tests and attitude questionnaires. The tests were administered prior to and after implementation of the "Orit" program, assessing learners' progress with respect to cognitive and literacy skills which support reading acquisition and targeted in the program. These tests were especially designed for this project and consisted of a battery of five components: word production from pictures (9 items), sentence production from pictures (4 items), letter recognition (28 items), reading familiar words (9 items) and reading unfamiliar words (9 items).

Attitude questionnaires were administered individually by Amharic – speaking teachers in an interview conducted at the end of the intervention, providing feedback on learners' perceptions of the benefits of the two programs and of their progress in Hebrew language acquisition.

Data analysis

Internal monitoring of changes in learners' language proficiency was carried out through analysis of test scores before and after program implementation. Students' test scores at the beginning of the program (pre-test) and at the end of the program (post-test) were calculated based on an average (mean) score standardized to a scale of 0 to 10. An analysis of variance (ANOVA) was carried out on "gain scores" (the difference between post-test and pre-test scores) for learners participating in the experimental program group as compared to those enrolled in the regular classes (the comparison group). An F-test was conducted to examine whether there was a significant "difference score" (the difference in gain scores between the program group and the comparison group). In view of slight differences in sample sizes, we did not use a pooled sample. Statistics were computed using the statistics program SAS. Content analysis was applied to qualitative data gathered through interviews and observations

Findings

Gain scores

Changes in learners' language proficiency, as assessed through analysis of 'gain scores' in proficiency tests administered before and after program implementation are presented in Table 1.

Overall, the gain scores for the program group ($D=.28$) were significantly higher than those of the comparison group ($D=.10$), indicating an overall program effect ($p<.0001$). This improvement was especially reflected in the areas of word and sentence production from pictures, as well as letter recognition.

Table 1: *Pretest and gain scores of the tests assessing the effect of the "Orit" Intervention*

Language Skills tested: Mean (SD)	Word production from pictures	Sentence production from pictures	Letter recognition	Reading familiar words	Reading unfamiliar words	Overall Scores
Pretest score program group (N=50)	4.68 (2.36)	7.56 (4.2)	23.3 (18.7)	2.12 (3.22)	1.62 (3.01)	40.12 (28.12)
Pretest score comparison group (N=41)	5.78 (2.29)	7.73 (4.36)	25.8 (19.83)	3.55 (3.73)	2.78 (3.58)	45.68 (30.52)
Gain scores program group (N=45)	2.90 (2.27)	5.02 (4.26)	16.64 (12.36)	1.89 (2.23)	1.13 (2.29)	27.97 (15.84)
Gain scores comparison group (N=39)	1.75 (1.59)	2.15 (3.34)	3.62 (9.30)	1.26 (3.01)	0.92 (2.86)	10.39 (14.44)
Significance of gain Scores	F=7.32, p=0.008	F=6.75, p=0.01	F=30.81, p=0.0001	F=1.27, p=0.26	F=.14, p=0.71	F=30.44, p=0.0001

Although no significant difference scores were found between gain scores for the two groups in the areas of reading familiar and unfamiliar words, initial gaps between the two groups, which favored the comparison group in the pretest, were significantly reduced after the intervention. It should be noted that

students in Regular (comparison) Ulpan classes also improved, albeit somewhat more moderately, in all the areas tested. Ongoing testing of further replications of this program are necessary in order to obtain more conclusive evidence of program effect, but initial results seen here may be indicative of a potentially effective program. It is the "soft" data however, in the form of teacher and learner feedback, as well as data regarding learner drop-out rates, which provided rich and valuable information with respect to program outcomes and the process of implementation.

Learners' language attitudes and perceptions of improvement in language proficiency

Survey data gathered from individual interviews with 43 learners in program classes and 30 learners in comparison classes, in which they were asked to relate to several statements addressing language attitudes and perceptions of language proficiency after having completed the Ulpan program, reveal the following:

Differences in mean responses between the two groups (on a scale ranging between 1-4) seem to be more apparent with respect to reports of improved language proficiency after completing Ulpan and tend to favor the program group. These differences were statistically significant for the following statements: I can now read newspaper headlines in Hebrew (Program=2.36, Comparison=1.92, $D=0.43$); ask someone on the street for directions (Program=1.86, Comparison=1.43, $D=0.44$); fill in a personal questionnaire about myself (Program=2.17, Comparison=1.57, $D=0.60$); and interview for a job (Program=1.94, Comparison=1.49, $D=0.46$). These reports reflect the beginnings of a renewed sense of self-efficacy may serve as a basis for heightened feelings of self-worth. These results coincide with the effect of motivation on literacy acquisition.

Teachers' feedback

Open-ended questionnaires completed by teachers of both the program and comparison classes, relating to various aspects of the programs they taught, revealed as follows:

Overall, teachers experienced similar challenges in terms of their students' lack of previous experience in the written code (in their mother tongue) and limited cognitive preparatory skills, which facilitate reading acquisition. Moreover, finding suitable learning materials and teaching methodologies for the level of their students was reported to be a constant challenge.

Teachers in the program classes reported that the innovative methods and materials introduced to them by the "Orit" program were welcomed. The innovativeness and structure of "Orit"'s digital program was seen as a potentially strong addition to the teaching/ learning process. At the same time,

technical difficulties, often associated with the technological infrastructure in place, were also reported to occasionally interfere with the implementation of "Orit"'s digital program - a challenge characteristic of technologically based educational programs.

Although native Amharic speaking teachers taught both in the program classes and in the comparison classes, those who taught in the program classes reported feeling a greater sense of professional self-esteem and self-confidence which contributed to their absorption to the Israeli society. This may be due to their being regarded not as mere translators, but rather as professionals who develop language and cognitive abilities.

With regard to student responses, teachers generally reported high levels of learner cooperation in the learning process in both program and comparison classes.

Teachers participating in the "Orit" program reported that some students initially voiced concerns that the materials and methods used were unrelated to language learning and/or were different to those used in other classes. Over time, however, these students exhibited high levels of engagement and cooperation during the learning process.

Student responses to the use of technology were mixed; ranging from immediate enthusiasm for the digital presentation, to some resistance towards this innovative, unfamiliar methodology. The diversity in reported student responses may have been partially due to their demographic diversity (e.g., in terms of gender, age, level of language proficiency) or to the different contexts in which the program was implemented.

Class attendance and drop-out rates

One of the prevalent issues challenging program planners for this target learner group is that of regular class attendance and perseverance in the program. As previously noted, difficulties facing the migrant and his "openness" to attending regular lessons during initial stages of migration are well known in the migration literature. In the case of the adult migrants from Ethiopia in Israel, low class attendance and high drop-out rates are prevalent.

In the current case, class attendance was similarly inconsistent across the board in both program and comparison classes. Female learners were often burdened with child-caring duties and illness in the family. However, drop-out rates, were significantly higher in comparison classes (some 31% in the regular Ulpan classes as opposed to about 11.5% in program classes), with similar reasons for dropping out being cited across the board-chronic illness, birth of children, and following up on job opportunities. Although Ulpan principals encouraged program learners to persevere, not to miss classes and to take

advantage of the unique program being offered them. This outcome is seen as noteworthy for program implementers and is in keeping with teacher reports regarding the high motivation and enthusiastic reception of the program by most learners, and their positive self-determination to acquire reading and writing (Comings 2007).

5. Conclusions and future directions

The "Orit" program seems to improve literacy, self-efficacy and motivation, even in comparison to well established programs for non-literates (the comparison group). It seems that the communicative-multicultural-neuropsychological model is suitable for teaching a second language to non-literate adult Ethiopian immigrants. Regrettably, our methodology does not allow us to determine with scientific certainty which component of this model contributed most to program success. Further qualitative research needs to examine the unique learning process and what constitutes effective motivation for learning to read. Still, what seems to stand out statistically is the feature of 'letter recognition' which is a very significant element in early reading development. Furthermore, production of words and sentences based on pictures indicates significant success, so it seems that the visual perspective and the technological support are valuable.

In general, we believe that our attempt to tailor suitable teaching-learning-evaluating processes to the Ethiopian immigrants' unique patterns of communication, learning and thinking strategies, systems of verbal and nonverbal symbols, oral literacy and ways of data organization was the key to the program's effectiveness (Schleifer 2014). Revealing their particular knowledge and considering their wealth of experience as an asset was our great challenge and enabled the development of 'Orit'.

The use of digital materials was also crucial for the program's success and seemed to fit with the learners' needs. On the one hand, it allowed us to combine special exercises with extensive drilling of neuropsychological and cognitive abilities critical for the acquisition of reading and writing. On the other hand, it provided the Ethiopian adults with their first experience with a modern, prestigious technique that encouraged them to engage in oral dialogues in class. In addition, the use of L1 in the L2 class proved to be extremely valuable. As was the case in Auerbach's research (Auerbach 1993) with adult beginners of English as a second language (ESL), learners gained a sense of security and expressed themselves in ways they may not have done in a strictly L2 setting.

Although in both the program and comparison groups the use of Amharic in class was seen as legitimate, our model employed L1 as an integral part of a

pedagogically well-constructed teaching process, which included providing specific feedback as a means of explanation, confirming useful learning strategies, comparing between Amharic to Hebrew and supplying suggestions to improve reading and writing systematically every lesson. This process coincides with mediated learning and facilitates reflective learning opportunities, which are important for those who had not experienced formal studies before. The significant use of Amharic in class also redefined the relationship between the two teachers and changed the balance of power between the native Hebrew speaking teacher and the native Amharic speaking teacher. The latter was able to become an equal partner in this collaborative model of teaching and gain a greater sense of professional efficacy.

During program implementation, it became obvious that teachers are key partners in the process and that they need to be included in the development of the program. Moreover, teacher training and on-going guidance play a major role in the successful integration of the new program into the official curriculum. Improving and broadening in-service training appear to be complex tasks, involving ongoing pedagogical investment.

Further research is also needed in order to determine what constitutes effective training (e.g., the inclusion of a support system for teachers in dealing with the daily dilemmas and challenges and the transmission of innovative teaching methodology using demonstrations by the developers themselves of the practical application of the program).

In order for program dissimilation to be successful it is important that program developers be well acquainted with existing language programs, and that an effort be made to incorporate innovative elements into the regular curriculum.

In conclusion, illiterate populations deserve well-planned, theory-based second language programs that can help them adjust to all aspects of becoming literate adults in a modern society.

Notes

- 1 This article was written under the auspices of the NCJW Research Institute for Innovation in Education, Jerusalem.
- 2 "Orit" was developed by Eli Ziv and Dr. Michal Schleifer based on the software "oryanit". The program was financed by the North America's Jewish Federations (JDC) and the Adult Education Division, Ministry of Education, State of Israel, and managed by the Israel Adult Education Association, (IAEA).

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**ICH-WILL-DEUTSCH-LERNEN.DE:
A LEARNING PORTAL FOR SECOND LANGUAGE AND
LITERACY ACQUISITION IN HETEROGENEOUS CLASSES**

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Abstract

Ich-will-deutsch-lernen.de (I want to learn German) is the name of a new learning portal developed by *Deutscher Volkshochschul-Verband e.V.* (German Adult Education Association), which was launched in August 2013. The platform provides a digital German course for low- and non-literates that can be used in heterogeneous classes and by independent learners alike. An innovative feature of *ich-will-deutsch-lernen.de* is the combined teaching of oral and written skills that can be adapted to the individual needs of learners. This article argues why there is a need for this kind of material, introduces the concept of the portal and shows actual examples of the material that learners use.

Keywords: computer-assisted language learning, learning portal, second language acquisition, learning German, adult basic education

1. Introduction

*Ich-will-deutsch-lernen.de*¹ is designed to support the acquisition of German as a second language. It is directed at participants in *Integrationskurse* (integration courses), other language courses and literacy training in the field of adult education as well as to those immigrants who – due to legal, financial or personal reasons – learn independently. The portal focusses on language course levels A1 to B1+ of the Common European Framework of Reference for Languages (CEFR) (Council of Europe 2001). Its courses, chapters and learning units are designed around the description model for the CEFR's communicative competences and the curriculum framework for integration courses, as developed by the German National Agency for Migration and Refugees (*Bundesamt für Migration und Flüchtlinge*, BAMF 2007).

In developing this literacy learning material, we started with the basic assumption that second language (L2) literacy training is inseparably linked to L2 acquisition. The learning material for non- or semi-literate users of the portal

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has therefore been conceptualised as a German language course focusing on oral skills with additional literacy training in L2 German. Another principal aim of *ich-will-deutsch-lernen.de* is to provide a means of helping teachers deal with the pre-existing heterogeneity of German as a second language (GSL) and literacy classes. The non-linear structure of an internet platform supports the idea of combining learning materials at different levels while focusing the class on a common topic.

2. General approach of *Ich-will-deutsch-lernen.de*

The curriculum framework for integration courses defines so-called 'fields of communicative action' which summarise the required communicative competences and learning goals for levels A1, A2 and B1 as set out in the CEFR's descriptors. These fields of communicative action include work, education, housing, health, shopping, mobility and other fundamental issues of everyday life. They underscore the contents and learning goals of the 45 chapters spanning the A1, A2 and B1 level language courses that comprise the complete *ich-will-deutsch-lernen.de* programme. These chapters are interconnected, not only by a grammatical-lexical progression but also by a narrative that is related through 45 episodes of an online, German-for-beginners level soap-opera.

Each of the 45 videos is used to introduce the learner to a field of communicative action as well as to deliver an introduction to new lexical and grammatical structures. The videos are placed at the beginning of each chapter, with the assumption that they can be widely understood by L2 learners. Each video is about three to five minutes long and depicts an episode in the life of a cast of nine protagonists who are struggling - more or less successfully - to find a new job with a secure income, love and a happy family life. They also encounter minor challenges such as passing the *Einbürgerungstest* (the German citizenship exam), correctly understanding the doctor's diagnosis and talking to the teacher about their 15 year old daughter's grades and behaviour.



Figure 1: *Protagonists of the online soap (Michalis, Niki, Elena) on the welcome page of the portal.*

The protagonists in the film series represent different generations, national origins, personal situations, problems and interests. By mastering the challenges of everyday life in Germany (not just communicative ones), they offer a template for the learner, who can compare his or her own experiences with the characters in the film. Despite the happy endings, life is not a “bowl of cherries” in the soap: sometimes communication fails, and it takes strenuous efforts to overcome misunderstandings and difficulties. For example, the protagonists learn that, in certain situations, it clearly helps to have translations of important documents confirming their professional skills. They also manage to overcome several obstacles in securing a bank loan and official approval in order to open a new restaurant. While every episode can be watched and understood independently, several plots develop over the 45 episodes and motivate the learner to continue working with the material.

Because these videos are the starting point for each chapter, they act as the central reference for exercises in which the language is perfected. At level A1,

they provide the introduction for all learners, whether or not they have literacy training needs: in other words, all A1-level learners work from the same videos and dialogue but receive different exercises relating to this material. The exercises are based on the lexical and grammatical structures that are implicitly presented in the dialogic texts of the video episodes.

In the learning units aimed at non- or semi-literate learners, reading and writing skills are provided at different levels – from phoneme-grapheme correspondence to the reading and writing of easy texts. Exercises for different skill levels in literacy training can therefore be assigned to the individual learners, as appropriate.

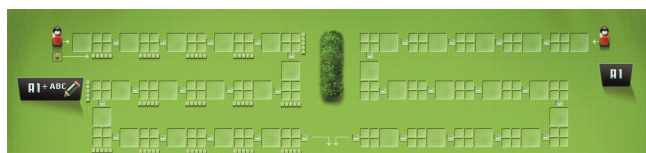


Figure 2: *Parallelism of German courses A1 and A1+ABC (literacy)*

At the same time, the programme aims to stretch literacy learners' oral skills in order to develop their spoken German and secure their progression at an A1 level. The primary aim here is to develop an (oral) functional basic vocabulary and a set of formulaic expressions and routines. This provides not only a foundation for basic communication in the second language but also a basis for focusing on form and applying methods for consciously dealing with grammar at a later stage (Aguado 2002; Edmondson 2006). It also offers an opportunity to work in heterogeneous groups with the same basic material, connecting language acquisition and literacy training.

3. Addressing heterogeneity in GSL classes with literacy training

GSL courses that include literacy training are generally heterogeneous. Nearly all of the literacy courses for GSL learners in Germany are offered as *Alphabetisierungskurse* within the framework of integration courses. *Integrationskurse* are publicly funded GSL courses offered to new immigrants with residential status, leading to the B1 certificate (the prerequisite for applying for German citizenship) and ending after a maximum of 900 hours' tuition – or, in the case of literacy students, 1,200 hours.

Since the establishment of integration courses in 2005, more than 100,000 individuals (over 10 % of all integration course participants) have participated

in *Alphabetisierungskurse*. Between 2005 and 2013, nearly half of them (44,209) passed the *Deutsch-Test für Zuwanderer* (DTZ), and formally completed the course with a B1 certificate. This amounted to 7.1 % of successful integration course students (BAMF 2014).

Literacy courses as part of wider integration courses are designed to combine GSL and literacy training. The content of the literacy course is based on the *Integrationskurse* curriculum framework. It includes not only developing reading and writing skills, linked to the general content, but also establishes a familiarity with learning techniques and a mastery of different media and communication technology (e.g., computers) (BAMF 2015: 84). Taken together, these comprise the programme's integrated learning goals.

Alphabetisierungskurse are not only heterogeneous with regard to the participants' first language, age, gender and other characteristics. Participants also differ with respect to their German oral skills and their reading and writing skills. While some have never been to school, others will have already acquired some literacy skills but are still struggling with the Roman alphabet and are therefore not able to keep pace with learners in a regular integration course. In every respect it is necessary to provide strongly differentiated pathways to meet individual learner needs. At the same time, teachers face the challenge of keeping their student groups together and initiating shared and cooperative learning.

Learning material designed for *Alphabetisierungskurse* not only has to address heterogeneity but also the fact that the course has two main objectives and progressions: learning German and developing literacy skills. The six years since the first release of the *Konzept für einen bundesweiten Alphabetisierungskurs* have seen the publication of key textbooks (Albert, Heyn, Rokitzki, & Teepker 2011; Böttinger 2011; Feldmeier 2011; Hubertus, & Yasaner 2011) and related teaching materials. Nevertheless, the basic problem of all printed textbooks persists: their authors make the assumption that all students start their language and literacy courses with no previous knowledge and follow identical, idealised progressions for acquiring German language and reading/writing skills. Teachers must, therefore, still devote considerable energy to adapting textbooks to students' particular needs and developing their own materials with and for their students.

4. Designing course structures for individualized learning

Ich-will-deutsch-lernen.de separates the two elements of the course – GSL and literacy – in a way that enables the learner to gain a differentiated literacy

training with each of the 15 chapters that make up the A1 level German course. In the *A1+ABC* section, the portal provides an A1 German course focusing on the development of oral proficiency plus a large resource of reading and writing exercises. These encompass a total of 250 exercises on five different levels per chapter, and are designed to meet the needs of learners with different skill levels.



Figure 3: *Parallel but separate progressions – above, a detail from the German A1 chapters (1 video with 100 oral exercises in 4 subchapters); below, a total of 250 exercises at 5 levels per chapter for differentiated literacy training connected to the content of the respective chapter*

As described in detail above, each of the fifteen A1 level chapters consists of a single video introducing the chapter's general topic. They provide examples of communication that are rich in expression, vocabulary and structures that form the basis for the chapter's 100 exercises. In order to improve oral proficiency, the exercises focus on listening and understanding, oral repetition of phrases and pattern drill as well as communicative tasks like speaking a message on an answering machine.

This concept is based on the idea that the acquisition of learning in chunks helps students not only to make rapid progress in oral proficiency at A1 level but also to obtain a sense of control and confidence in mastering the L2 (Aguado 2012: 8). Based on these skills, the learners' awareness can be focused on L2 structures to achieve a deeper understanding of phenomena and transferability. The oral A1 course is, moreover, fundamental to German L2 literacy teaching, as literacy can be achieved only on the basis of verbally understandable material (Mempel, Ochs, & Schramm 2013: 50).

Oral proficiency in German is central to the social integration of migrants for nearly all everyday activities and is even more important in the case of students whose reading and writing skills need more time to develop. Non- and semi-literate people require verbal strategies to compensate for their deficiencies and to seek assistance when confronted with written information or tasks they cannot master. The oral A1 course in the portal is designed to

address the verbal challenges of everyday life and therefore includes strategies to request re-phrasing, repetition and other forms of support.

The oral A1 course relies heavily on audio support: functions like recording, replay and repetition are essential. In these exercises every written word, sentence or piece of text is supported by an audio version. By clicking on the loudspeaker icon, users hear the instructions, questions, choices or the texts in which they can identify important information.

The Figure 4-6 are examples for exercises promoting oral understanding and expression (Chapter A1.4 “Buying food”) .



Figure 4: *Bingo*
(Instruction: “Listen to the words and choose the correct pictures.”)

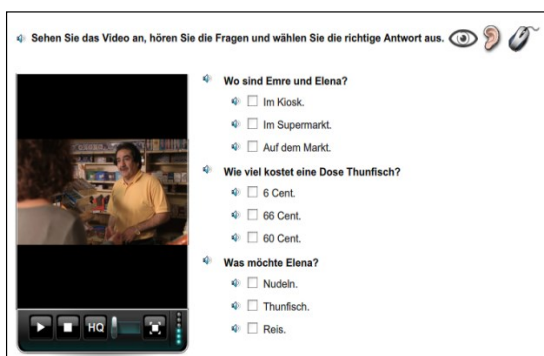


Figure 5: *Multiple Choice*

(Instruction: “Watch the video, listen to the questions and choose the right answer.”)

(Text in Figure 5: - “Where are Emre and Elena?

In the Kiosk./In the supermarket./In the farmers’ market.

- How much is a can of tuna?

6 cents./66 cents./60 cents.

- What does Elena want?
Noodles/Tuna/Rice")

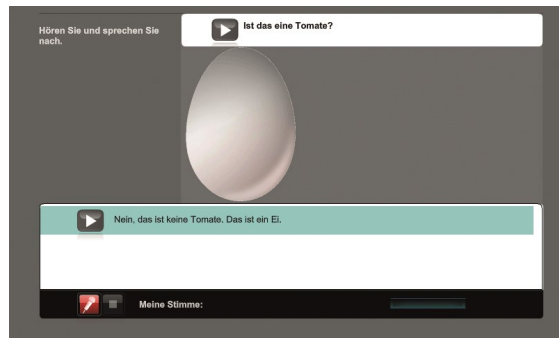


Figure 6:
Listen and repeat

(Instruction: "Listen and repeat."

Text: "Is this tuna?"

No, this is not tuna, these is an egg."

Labels beside the 'play' buttons: "My voice" and "compare")

The oral German course is supported by a parallel literacy training facility, comprising 3,750 exercises for differentiated work in heterogeneous groups. For each of the fifteen A1 chapters 250 exercises at five different levels are provided in order to give the learners enough material to develop their reading and writing skills, linked to the topic and content of the respective chapter. The learning units are designed as follows:

- Stage 1 covers graphemes and phonemes, numeric characters and vocabulary building on a very restricted basis of five words from the A1 chapter;
- Stage 2 introduces difficult and specifically "German" phonemes and graphemes, numbers 1 – 100 and a slightly extended vocabulary;
- Stage 3 provides learners with a wider vocabulary, numbers 1 – 1000 and first grammar exercises;
- Stages 4 and 5 extend grammatical and lexical work further and provide an introduction to the reading and writing of short and, occasionally, medium-length texts.

The five levels represent the content and learning goals of "Basis-Alpha-Kurs" and "Aufbau-Alpha-Kurs A" as defined in the appendix (*Anhang G*) of the

Konzept für einen bundesweiten Alphabetisierungskurs (BAMF 2015: 164-193). The specific concept for L2 literacy courses differentiates between communicative and linguistic competences such as lexical, grammatical, phonological and orthographical competences. The linguistic competences are strongly linked to the A1 level learning goals in the curriculum framework for integration courses. A1 is the target level for the combined 400 hours of “Basis-Alpha-Kurs” and “Aufbau-Alpha-Kurs A”. In this respect, the integration course and literacy course differ only in the time frame set to achieve a certain competence level. Well-established didactic and linguistic principles form the basis of the grammatical progression set out in the *Konzept für einen bundesweiten Alphabetisierungskurs* and delivered through the portal. These include:

- the order of acquisition (the natural, unchangeable order in which grammatical structures are acquired); (see Clahsen, Meisel, & Pienemann 1983; Diehl, Christen, & Leuenberger 2000; Griesshaber 2003-13; Pienemann 2003);
- the didactic rule of progressing from less to more complex phenomena;
- the pragmatic approach of favouring content with wider applicability over content with a more restricted practical use (the perfect tense – structurally more complex than simple past but much more commonly used in German everyday conversation – is taught long before other forms of past tense); and
- the systematic approach of favouring more frequent over less frequent phenomena (for example, the introduction of the more frequent accusative earlier than the less frequent dative). (See also BAMF 20015: 69ff).

The Figures 7-9 are examples for exercises in literacy training on level 1 (Chapter A1.4 “Buying food”).

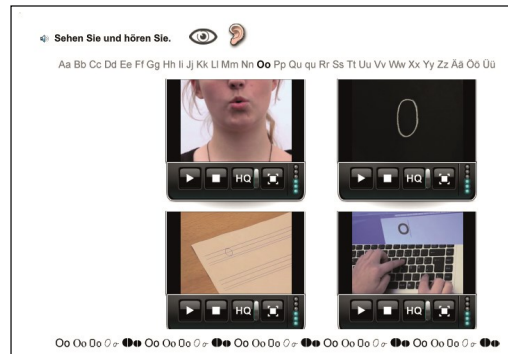


Figure 7: *Presentation of phonemes and graphemes “o / O” (Instruction: “Look and listen.”)*

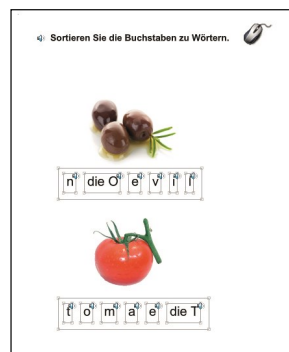


Figure 8: *Sorting (Instruction: “Put the letters in the right order to make words.”)*

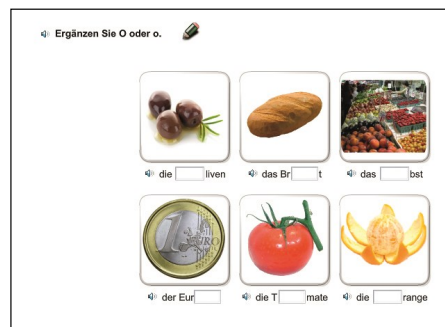


Figure 9: *Cloze (Instruction: “Complete the words with O or o.”
Text: “The olives/the bread/the Euro/the orange/the tomato/the fruit”)*

Learners and teachers may freely combine any of the first to fifth level literacy exercises with the oral exercises in the A1 chapter. The overall topic of the chapter provides coherence to the content of individual elements.

Alphabetisierungskurse participants who have a certain measure of literacy and whose introductory lessons do not therefore need to centre on the identification and use of letters and characters may proceed to a higher level. On the other hand, exercises are provided in chapter A1.15 to distinguish graphemes and phonemes for those who need additional support.

The Figures 10-12 are examples for exercises in literacy training on level 5 (Chapter A1.4 “Buying food”)

Figure 10: Cloze, variant drop down

(Instruction: “Complete the expressions.”)

Text: “[a bottle of] milk / [a can of] peas/[a bar of] – [a can of] chocolate/ [] crisps”)

Figure 11: Cloze variant drag and drop, with corrections

(Instruction: “Niki doesn’t like fruit or vegetables. What is she saying? Listen and fill in the blanks.”)

Text: “I don’t like fruit or vegetables” (Lit.) “I [like] no fruit and [no] vegetables.” I don’t want any bananas or carrots.” (Lit.) “I want [no] banana and also no [carrots].” “Vegetables aren’t food.” (Lit.) “Vegetables [are] no food.” “Lettuce and carrots [*is] fine for rabbits but [not] for me.”).

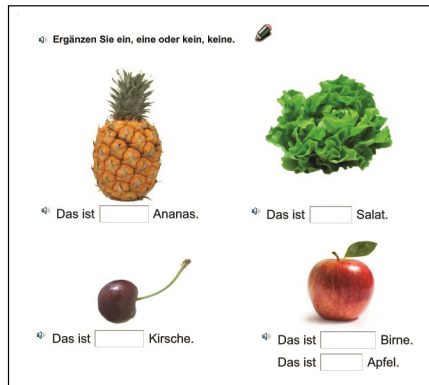


Figure 12: Cloze, variant "type in"

(Instruction: "Complete ein, eine or kein, keine".)

Text:

"This is [a] pineapple./

This is [a] lettuce./

This is [a] cherry./

This is [not a] pear. This is [an] apple.")

Despite these differentiated levels, the class's integrity will be maintained by the students' working on the same topic and progressing together in completing the A1 chapters. The topics and the videos create a framework for shared, mutually-supportive learning in the classroom, prompting questions and discussions among students, providing a spur for communicative activities and role-play and opportunities for projects and sharing personal experiences. During individual activity periods, the class is split up and each student can tackle any of the 350 exercises in each chapter that fits his/her personal needs.

This differentiation is not limited to different sets of exercises but also extends to an individual learner's pace in completing the exercises. Working individually at the computer, the learner determines his/her own tempo and also decides by him/herself whether or not to repeat a recording, exercise or the whole learning unit. Automated feedback in the great majority of the exercises not only helps to control the outcomes but also speeds up learning processes as it immediately confirms or rejects the learner's assumptions. The rapid correction of errors supports learning and encourages learner autonomy. It also helps to maintain the momentum of learning outside the classroom and after the course has ended.

Automated feedback certainly has its limitations and is not a panacea. For all those exercises and open tasks where differentiated feedback is needed, a tutor can support the learner (see, e.g., Figure 13). Teachers assuming the role of a tutor control the learning process and results, assign exercises to individual learners or whole classes, and send corrections and feedback on written texts and recordings.

Figure 13: Example of a level 3 literacy training exercise on (chapter A1.4 “Buying food”), open Free text input exercise that can be sent to the tutor (Instruction: “Write out your own shopping list. Make a note of 6 things.” Button below: “Send to the tutor”)

Ich-will-deutsch-lernen.de is also freely accessible for independent learners. In such cases, learning support is provided by a number of tutors at Deutscher Volkshochschul-Verband, where teachers assist with correcting and giving feedback on ‘open’ productive skills exercises for which automated feedback is not practicable.

5. Conclusion

Ich-will-deutsch-lernen.de is designed as a tool for heterogeneous GSL classes that may include non- or semi-literate learners who, in addition to learning the German language, need to improve their reading and writing skills. Unlike printed textbooks, the portal’s non-linear structure and the considerable amount of material it contains create a platform where highly individualized learning can be successfully delivered: this fully acknowledges the varying needs and pace of heterogeneous classes, without compromising the benefits arising from their team spirit.

In further developing the platform the improvement of differentiated feedback is highly desirable. This might include specially-designed exercises and feedback to raise language awareness by comparing and contrasting German with the learner’s native or third language. Currently, the language selection on the welcome page gives access to translated elements of the portal: a video tutorial on basic functions and navigation, the registration form and

various 'help' documents, terms of use and a data privacy statement, currently available in a total of sixteen languages. By using the language selection facility as the basis for differentiated feedback, a learner could gain suitable input for developing his/her ability to understand and compare features of his/her language(s) with the German structures and examples. It could also provide better opportunities for teachers to appreciate the learner's language(s) as an important basis and resource for learning.

Because learning needs can be addressed individually and learning processes are being progressed through the platform, a positive effect on the general motivation of learners is very likely. Recent student feedback indicates that participants in literacy courses need special assistance in gaining familiarity with computer-assisted learning and mastering an internet-based portal. But it is also evident from interviews that learners are highly motivated to access digital learning programmes and that they appreciate the content – especially the videos, related exercises and learning games – of *ich-will-deutsch-lernen.de* (Deutscher Volkshochschul-Verband 2013).

Perhaps the greatest benefit of the portal is to be seen in the likely advancement of learner autonomy that is supported by a free and publicly-accessible learning programme. This in no way supersedes traditional, face-to-face courses, but rather, it opens up new opportunities for effective and continuous learning inside and beyond the classroom.

Note

- 1 The project *ich-will-deutsch-lernen.de* is promoted and sponsored by the German Federal Ministry for Education and Research (Bundesministerium für Bildung und Forschung BMBF), Förderkennzeichen W124803.

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LOWER EDUCATED ADULTS LEARN BASIC SKILLS ONLINE

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Abstract

Using adapted digital exercise material, lower educated adults can work at their own development and towards better participation in society in an informal and non-formal manner. Learners can participate in and be successful in online environments at various levels. Lower educated adults are doing this, independently or with support, through self-motivation and because they want to be at the helm of their own learning process. Digital skills are a precondition for this: they are the new key skills, as opposed to for instance traditional language skills. They provide a springboard to other domains – in addition to literacy and numeracy – such as health, work, parenting and money, which are increasingly digitalised. Digital information channels often put too much focus on language without regard to the users. Digital communication skills are increasingly required, even for lower educated adults. This Dutch contribution shows how important it is for lower educated adults to practise and increase their digital skills on a basic level of literacy, enabling them to perform adequately in digital communication and to operate skilfully in the digital world. This is illustrated using the exercise portal *Oefenen.nl* (Practise.nl) and the *Klik & Tik* (Click & Tick) programs that were developed specifically for adults with a low level of education. This offers chances and opportunities for a new style of adult education.

Keywords: online/digital learning, digital skills, literacy, non-formal learning, adult education, PIAAC

1. Introduction

Digitization is advancing in all areas of society and not least in that of the government. In the Netherlands, the government wants all government communication to be digital in 2017. However, there is a large group of people for whom it is a bridge too far. They are not digitally proficient enough and lack other basic skills, for instance language and numeracy, to participate fully. For these adults with a low level of education there should be support. And that can

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be done with the use of adapted digital learning materials which they can use themselves on their own or with some sort of support to improve their basic skills. In the Netherlands this can be done with, for instance, the portal *Oefenen.nl* (Practise.nl) with a lot of programs around the Dutch language, numeracy and digital skills, but also embedded in relevant themes (for instance health and work). For example, the *Klik & Tik* (Click & Tick) programs help people to become more digitally skilled. This contribution shows how important online learning is for lower educated adults to improve their basic skills, such as their digital skills. It is important that this is done at their own level of language proficiency.

2. Digital skills to participate in society

In the 'Vision letter e-government' the Dutch Government sets forth its commitment to e-government, whereby citizens will have to communicate with the government safely and easily online by 2017. Paper letters and forms will disappear. What does this mean for the large group of Dutch people who have not enough digital skills?

From 2017 onwards the government intends to communicate with its citizens almost exclusively through the Internet. Customer contact with organisations such as Employee Insurance Agency, the Social Security Bank and the Tax Authority has increasingly become digitalized. The Chamber of Commerce too, is digitalized; everything is done via computer. Yet there are about a million people in The Netherlands who lack sufficient language and computer skills for this. Bommelé and Keur (2013) convincingly argue that the government grossly overestimates the digital skills of Dutch citizens (see also Klute & Vaske 2013). In their digital participation ladder they clearly show that language is a precondition for digital skills. Time and again, lower educated adults fall through the cracks of government policy. Slogans such as 'own strength', 'self-sufficiency', 'responsibility' and 'active citizenship' sound good, but some sort of support remains necessary. Support for instance can refer to places of access (such as libraries), accessibility (navigation and layout), human support (such as volunteers or help at the workplace) and language or specific materials (functional, aimed at the everyday experience of adults).

The Netherlands was one of the countries participating in the International Programme for the International Assessment of Adult Competences (PIAAC), the results of which were published at the end of 2013. This study charts the level and use of skills among people aged 16 to 65. PIAAC tests language and literacy skills, numeracy skills and problem solving ability in digital

environments. This concerns functional skills: understanding and applying information found in everyday life.

The problem solving ability in a digital environment is closely associated with computer skills – the ability to use information and communication technology (ICT) applications – and with the cognitive skills that are required to solve problems. This skill does not merely concern testing computer ability, but involves testing the adults' ability to use these digital tools to find, process, evaluate and analyse information effectively.

Solving problems in a digital environment is seen as an important skill for many different professions. Most people already deal with computers in both their daily and working life. The results (Buisman et al. 2013; Houtkoop 2014; see also OECD 2015) show the following:

The Netherlands has a high level of digitization: 97% of the people in The Netherlands have experience with computers in their daily life, 91% use a computer from time to time, 80% have experience with computers in their working life and 94% of the people who use computers at work have the required ICT experience; A small percentage (3%) does not have computer experience (level 1 of PIAAC).

Although many low-literates cannot be regarded as digitally illiterate, there are some differences with the higher educated participant: 87% of people with low literacy use a computer from time to time, but they use the computer with less intensity than people with a higher level of skills; they are almost nearly as active as people with a high literacy level when it comes to e-mail and searching for information online, but they use less often Word and Excel.

Van Dijk & Van Deursen (2014) describe the following six types of internet skills (from lower to higher order skills):

Medium-related internet skills:

Operational skills: the technical competences required to command a computer or the Internet. Also called: 'button knowledge'.

Formal skills: browsing and navigating the Internet.

Information skills: the ability to search, select, and evaluate information in digital media.

Content-related internet skills:

Communication skills: the use of email, chatting, instant messaging or tweeting, preparing profiles on social media or online dating, and contributing to online communities requires special communication skills.

Content creation skills: professional skills for not only the design and publication of a personal or professional website; it also refers to the writing of text, the

recording or assembling of pictures, videos, and audio programs, or compiling a personal profile and producing messages and images on a social networking site. *Strategic skills*: refers to the ability to use the digital medium as a means for a particular or professional goal. For example comparing prices in ecommerce or making a reservation for the cheapest and most convenient flight.

2.1. Literacy and digital skills

There is a relationship between literacy level and Internet use (Baay et. al 2015; Van Deursen & Van Dijk 2012). People, who are digitally illiterate, are more likely to have a low literacy level. Formal, information and strategic skills are also lower when people have a lower literacy level. This means that having difficulty to read and write has a negative impact on their ability to navigate and search the Internet. A later study by Van Deursen and Van Dijk (2014) shows that in The Netherlands there is a relationship between literacy and formal and information skills and that literacy is a precondition for the use of Internet skills. No relationship was found for operational skills. They rightly comment that in order to participate in this type of study people need to have a fairly high level of literacy. People with really serious literacy problems most likely will also have problems with operational skills.

At the request of the Ministry of the Interior Affairs and Kingdom Relations, Gillebaard and Vankan (2013) carried out a study into the digital skills of Dutch citizens in view of the government aim for a (full) e-government by 2017. They rightly claim that much educational material aimed at giving people better digital skills often requires a basic level of literacy. They describe who are threatened to be left behind. This includes people with low literacy.

People with a low level of literacy are not necessarily digitally illiterate. However, much digital information puts too much focus on language (and literacy) for this group and sites are also often difficult to navigate. A big problem is to make digital content understandable for people with literacy problems. There is indeed a clear link between language and literacy skills and digital skills.

3. Online learning in adult education

The question is whether lower educated adults can be educated digitally. The use of ICT is often mentioned in connection to teaching people with insufficient literacy skills. There are enough practical examples and experiences (for instance *Learning together with digital technologies* 2012; Clark 2011; Davis & Fletcher 2010;

Driessen et al. 2011; Hegarty & Feeley 2010). Learning with the aid of ICT and multiple learning strategies seems to work because it helps build the self-confidence of participants and increases their motivation.

That learners on the lowest level can handle online material has already been shown by an American review study (National Institute for Literacy 2008) into the thresholds of 'literacy and language proficiency' that are necessary for adult learners to use the internet for 'independent learning'. It showed that there are no thresholds: 'Learners at even the lowest levels of literacy and language proficiency can engage with online learning content. Moreover, all reports indicate that they are eager to do so and benefit in important ways, such as self-confidence, learner autonomy and independence. Adult learners across the literacy and language spectrum show strong motivation to gain computer skills, perceived as key to work advancement.' The study also describes that other research had shown that a group of self-study learners showed more 'apparent interest' in the use of computers and the Internet with 'the lower literacy proficiency'. Adults with a low level of literacy seem to want more learning possibilities than those with 'high intermediate levels'.

In a review study MacLeod and Straw (2010) pointed to a number of examples whereby online learning was used to teach basic skills, and whereby these were 'embedded' into an ICT course. This was highly successful because learners were willing to identify their digital skills, whereas they were unwilling to admit they needed to improve their language and numeracy skills. Other courses showed that learners enjoyed learning English using online material.

There is enough evidence to prove that digital learning makes a difference. Digital learning gives a great stimulus to informal and non-formal learning. Non-formal learning is intentional and systematic, but is not bound to final attainment levels. Most adult learning falls under non-formal learning. Informal learning is never organised, non-intentional and has no set objective in terms of learning outcomes (Doets et al. 2008; OECD, no date). Digital learning has become a constant factor for adults with a low level of education in our society (Vaske & Schrijvers-van de Peppel 2013). It means a breakthrough for a large group of people and is a popular way for lower educated adults to acquire basic skills. Studies show that digital learning motivates people and is successful. Digital learning offers both chances and opportunities (Bersee 2014; Bersee & Vaske 2013).

3.1. Digital learning in The Netherlands: *Oefenen.nl* and *Klik & Tik*

The report of the results of five years of policy on low literacy from 2006-2011 (Steehouder & Tijssen 2011) states that in The Netherlands in the past few years

an important impulse has been given to the development of a digital learning environment for adults with a low level of literacy, using the multimedia programmes that were realised by Stichting Expertisecentrum ETV.nl (ETV.nl), and that have since been collected on the portal *Oefenen.nl* (Practise.nl). It also states that further development of digital learning and digital learning environments will offer many opportunities to approach lower educated adults and adults with low literacy levels (see also *Scaling Up, Achieving a breakthrough in adult learning with technology* 2012; Clark 2011; Hegarty and Feeley 2011; and Moriarty 2012). *Oefenen.nl* is the starting point for people who want to improve their basic skills interactively.

Oefenen.nl

During the past 10 years ETV.nl has been working on the use of multimedia for adults with a low level of education. The ETV.nl programs are specifically aimed at the wishes, requirements and backgrounds of lower educated adults and of people with insufficient proficiency in the Dutch language (L1 and L2) (Bohenn et al. 2014; Van de Laar 2014).

As can be seen in Figure 1, the portal *Oefenen.nl* has links to programs for various domains. These domains are: Language, Maths, Work, Parenting, Money, Health and Internet.



Figure 1. Homepage Oefenen.nl

Figure 2 shows the page with the overview of language programs, both Dutch as first language (the *Lees en Schrijf!* [Read and Write] programs) and Dutch as a second language (the *Taalklas.nl* [Language class] programs). People who want to start with language programs can do a small 'test' on *Oefenen.nl* via the button 'Kies je taalniveau' [Choose your language level]. The results determine whether you are better off starting a program with 1, 2, 3 or 4 stars.

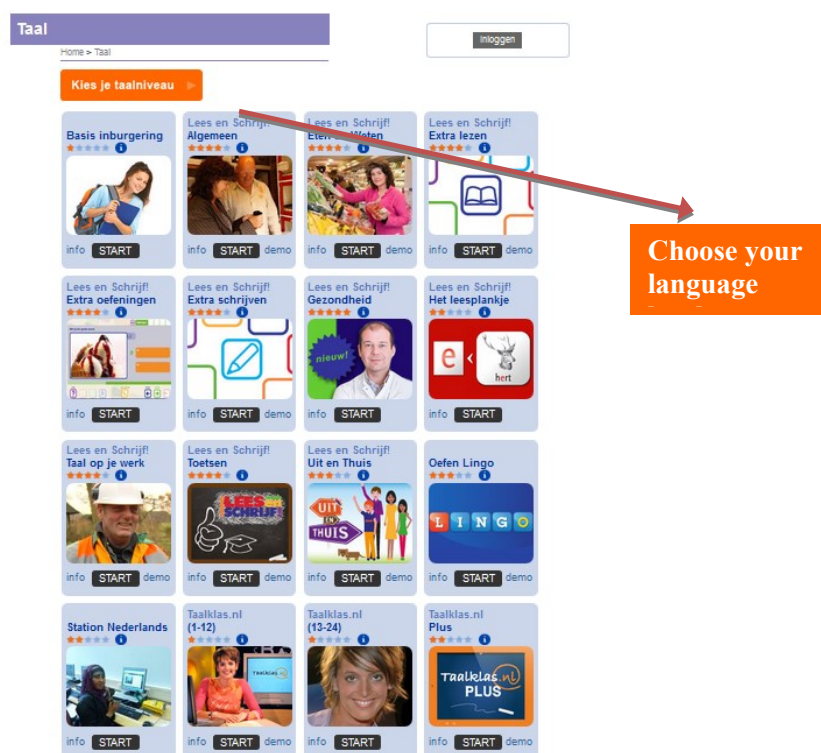


Figure 2: Page from Oefenen.nl with language programmes

ETV.nl offers its exercise materials through the portal *Oefenen.nl*. *Oefenen.nl* is a portal, specifically developed for lower-educated (young) adults who want to improve their basic skills with regard to language or literacy (for instance using the popular programs *Taalklas.nl* (Language class) or *Lees en Schrijf!* (Read and Write), numeracy and digital skills. These basic skills are embedded in subjects such as health, work, parenting and money (see Figure 1). Individual work at

home is free of charge. Organisations that want to work with *Oefenen.nl*, must buy a license. This licence not only provides access to the exercise material. it also gives access to the tracking system that supervisors/teachers can use to guide the learning process: by making learning routes for their learners, by following their progress and through direct contact.

The tracking system includes additional material such as working sheets for various programs and User/Teacher manuals. Workbooks also support these programs.

Oefenen.nl wants to be the medium through which people can develop themselves. Users can choose their own programs, depending on their needs. For instance for people without a job or for people for whom a course forms too great a step (be it out of shame or insecurity).

On the basis of *Oefenen.nl*, the A&O fund has developed the WERK-portal (work-portal) for organizations that employ people with disabilities. The online learning material they develop themselves has been added to *Oefenen.nl*, creating a rich exercise environment for the working field. In 2014 70 of these organizations used this WERK-portal and the number of users rose with 76% from 6,614 in 2013 to 11,668 in 2014. Cooperation between such organizations and libraries offers opportunities for support of large groups of adults with limited digital proficiency. One of the gains is that teachers, volunteers and work consultants say that employees who participate in education, take responsibility for their own development. This can be seen in the improved verbal communication on the workplace (Ijpelaar 2013).

The language programs on *Oefenen.nl* have been designed for a specific target group: adult learners of Dutch as L1 and of Dutch as L2. In The Netherlands we have a specific framework for both groups, describing proficiency levels. The levels for L1 Dutch are drawn up in the Standards and references for adult education (see Table 1). The levels for L2 are drawn up in the *Raamwerk NT2* (Framework Dutch as a Second language). This is the Dutch version of the Common European Framework for References for Languages (Council of Europe 2001). See for a comparison of both frameworks CINOP (2013). See also Table 1.

Table 1: *Framework Dutch as L2 and standards and final attainment levels of adult education compared (ae)*

Framework Dutch as L2	Standards adult education
A1	Intake level
A2	1F
B1	2F

Figure 3 shows an example of an exercise on the level below A1 (L2). It is an exercise from the first chapter with the theme The House of the program *Taalklas.nl* 1-12 (Language Class). The instruction (also in audio) is: Click on the ear, listen and read, repeat the words; in this case the word 'badkamer' (bathroom).



Figure 3: Example of an exercise below level A1 for L2



Figure 4: Example of an exercise on level A1 for L2

Figure 4 shows an example of an exercise on the level A1 (L2). This exercise comes from the chapter 'A letter from school' of the program *Taalklas.nl* 13-24. It is a writing exercise. The instruction (also in audio) is: Click on the right word and on the right place in the picture. For instance, the learner clicks in '20.15u' and then on the right place in the reply slip. Then the word appears in the picture.

An example of a reading exercise on the intake level for L1 is shown Figure 5. This is an exercise from the chapter 'Do odd jobs' of the program *Uit en Thuis* (Off and at Home). The instruction (also in audio) is: 'Read the question and Click on the right spot in the picture'. The learner has to click on the word 'muurverf' (wall paint).

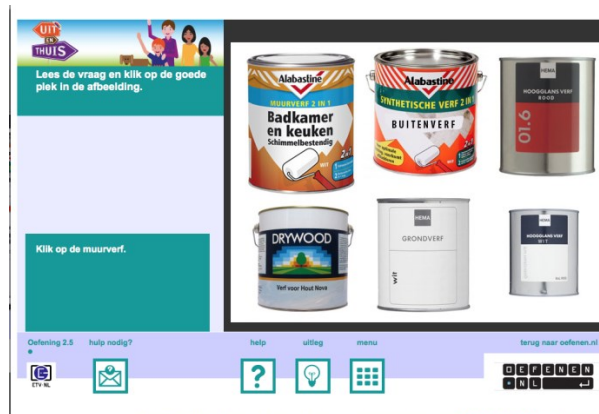


Figure 5: Example of an exercise on Entry Level L1

It is interesting to see that at *Oefenen.nl* the language programs are used mutually: L1 learners use Dutch L2 programs and vice versa. More L2 learners are actually using L1 programs than L1 learners. When we focus on the active users of mainly the *Lees en Schrijf!* programs we see that 64% learn Dutch as a second language. The focus of the *Lees en Schrijf!* programs is on Dutch as a first language (Smit and Camo 2013). For L2 learners around or just below level A2, the material on *Oefenen.nl* turns out to be very usable, provided they are given a little support.

Klik & Tik

ETV.nl has developed three *Klik & Tik* (Click & Tick) programs teaching digital skills to low-educated adults and people with insufficient language proficiency:

Klik & Tik. Het internet op (2009) (Go online), *Klik & Tik. Samen op 't web* (2010) (Together online) and *Klik & Tik. De basis* (2014) (The basis). These programs are on *Oefenen.nl*.

Klik & Tik. De basis teaches users in 21 chapters how to use the basic functions of the computer.

Klik & Tik. Het internet op teaches the user in six chapters how to use the basic functions of the internet.

Klik & Tik. Samen op 't web teaches the user in seven chapters how to use social media in a safe and controlled environment.

There is an introductory film in three parts, suitable for plenary use before the start of a course. There is a learners' book that links the three programs (Bohnen et al. 2014), a manual for supervisors, and each program comes with a certificate. There are also three learning courses for license holders of *Oefenen.nl*. Each learning course is based on a *Klik & Tik* program and is supplemented with other relevant material from *Oefenen.nl*. Finally, there are the working sheets '*Allemaal Digitale Apparaten*' (Lots of Digital Machines) that introduce learners to other digital equipment. The programs take the language level of the target group specifically into account. Currently, this makes the programs unique.

Figure 6 gives an example of an exercise of chapter 8 of *Klik & Tik. De basis* with the title: Stop. The instruction is: Read the exercise. Click on the right spot in the picture. The exercise is: Finish the program. Click on the cross.

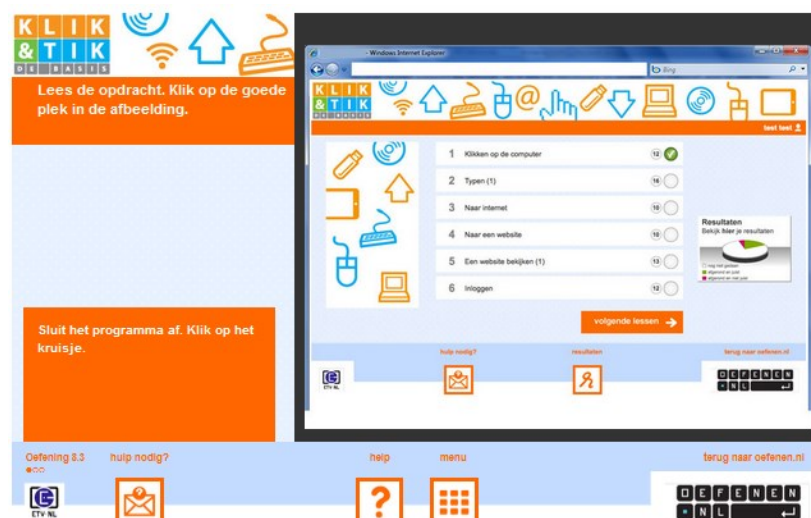


Figure 6: Example exercise *Klik & Tik. De basis*

For the first two *Klik & Tik* programs the division into the earlier mentioned Internet skills (Figure 1), which had at the time only recently been announced, were taken into account, with an emphasis on operational and formal skills. The third program has been developed in accordance with the Standards and References for language proficiency, numeracy and digital skills for adult education (see Table 1), and the two other programs were also weighed against this. This ensures that the three programs now cover a large part of the levels for digital skills. Prior to 2013 there were no formally-set standards for adult education in the Netherlands. This omission has been rectified. Since 1 January 2013 there have been legal standards and references for language proficiency, numeracy and digital skills. It means that both formal and non-formal education courses in receipt of state funding must meet these standards. A clear link has been established between language skills and digital skills. The levels for digital skills are linked to the levels for language proficiency and numeracy.

The final attainment levels for digital skills have been formulated within the context of literacy and use of everyday technology. The digital skills have been grouped into five domains:

- Domain 1: Use of ICT systems
- Domain 2: Security, privacy and ergonomics
- Domain 3: Searching for information
- Domain 4: Processing and presenting information
- Domain 5: Communication.

For Dutch as a second language the Framework Dutch L2 is being used.

3.2. Uses and results

To give an impression of usage, Table 2 sets out the numbers of new Oefenen.nl accounts between 2012 and 2014.

Table 2: *New accounts of Oefenen.nl*

	2012	2013	2014
New accounts	127.000	131.693	164.000

In 2014 the number of *completed programs* on *Oefenen.nl* rose with 23% from 4,931 in 2013 to 6,100 in 2014. The number of free, *individual accounts* (free use at home) rose in 2013 with 7% from 1,361,461 in 2012 to 1,458,833 in 2013. The increase in

free usage in 2014 versus 2013 is 39%. In 2013 the number of *licensed accounts* (through an organisation or with another form of supervision) rose with 30% from 117,298 in 2012 to 151,619. The increase in 2014 versus 2013 is 46%. The *number of visits* by these users through a license rose in 2013 with 147% from 126,314 in 2012 to 312,027. In 2014 we have seen another increase: 30%. The *Klik & Tik* programs are very popular and are used in various settings, such as welfare organisations, in mainstream education, in reading and writing classes, classes for senior citizens and mainly in libraries.

Gillebaard et al. (2013) indicate that even non-formal education, such as courses using the e-learning program *Klik & Tik* in libraries, means that digitally illiterate people show improvements in various aspects. This is supported nationwide by the library organisation. All Dutch libraries have a license for *Oefenen.nl* and research was and still currently is being carried out into the use and effect of the programs in libraries (Smit 2012; Smit and Camo 2013, 2014; Smit and Van de Ven 2012). As a library employee puts it (21 February 2015):

“We were very surprised that there is still such a large group of (older) people without a computer and/or computer experience. Whenever we plan a series of workshops, twice as many people apply than we have space for. For 2015 we have already 5 courses set up. Our participants of *Klik & Tik de Basis* are very enthusiastic and almost all of them go on to do the course: *Het internet op*.”

Libraries are generally positive about offering educational services surrounding *Klik & Tik*. The materials appeal to the participants, they are accessible and the libraries generally manage to support the participants in practising with the materials. Library employees are also positive about the results with the end users. They notice less fear of computers, more self-confidence and in various levels more proficiency among the participants of the educational part of the materials. *Klik & Tik* dovetails well with the national policy regarding media knowledge and low literacy, and lifelong learning, and it fits in with the needs of groups that are left behind. The programs also fit in well with the day-to-day experience of the library because the *Klik & Tik* programs are more or less ready-made exercise packages. Libraries can use the material immediately without having to do much work of their own. This fits in well with the limited capacity libraries have to develop their own educational products. A large number of learners indicate that because of *Klik & Tik* they now use the library for other purposes as well. The demand for more *Klik & Tik* programs, including thematic ones, remains undiminished, conform a spoken column by Halima Makoul, coordinator with Al Amal in Utrecht, 5 March 2014

(<https://d1l066c6yi5btx.cloudfront.net/etv/docs/71e6d251-cd7a-4728-86ba-50f508336597.pdf>). (See also Klute & Vaske 2013.)

“That is why I am so happy about *Oefenen.nl* and the new basic module of *Klik & Tik*. *Klik & Tik*. *De basis* offers (young) adults, but also older people, an attractive and accessible way to practise a number of digital applications and thereby offer a gateway to digital skills that are needed to communicate with public bodies such as: UWV, debt assistance, youth care and the Child Welfare Council. The online programs of *Oefenen.nl* may be used anywhere, in community centres, libraries, but also at home.”

In a study that showed the results of learning courses in non-formal contexts the effects of the digital exercise environment *Oefenen.nl* of ETV.nl were also looked at (De Greef et al. 2012). Half of the respondents were in paid employment; most participants used the programs *Lees & Schrijf!* (for Dutch L1 learners) and *Klik & Tik* (Click & Tick), and they spent on average three hours per week or fewer on education through the digital learning environment *Oefenen.nl*. The majority of the participants thought the exercise material of good quality. They decide when and how they learn (self-guidance) (see De Greef & Bohnenn 2011; Fuhri Snethlage & De Groot 2014). *Benefits of Lifelong Learning* 2014; Sgier 2014) and they indicate that they can apply what they have learned in daily life (transfer possibilities). Earlier research (Neuvel 2007; Smit & Bersee 2009) showed that the use of a digital exercise environment has a positive effect on the reading and writing capability of participants. De Greef et al. (2012) confirmed this. This study showed that the use of a digital environment ensures a better place in society for a relatively large number of low-skilled participants; is mainly successful when there are sufficient transfer possibilities and when (for several adults) constructive support by a teacher is offered; and interactive and practice-based learning materials and activities are offered and can be offered effectively.

4. Towards a new style of adult education

Adult education in The Netherlands has been in a difficult position for a number of years now. The Dutch L2 education has already been commercialised. From 2015 the education budget will be handed to the local authorities and they will no longer be obliged to contract out to the Dutch centres for vocational educational training/adult education. This fits in with the decentralisation of responsibilities towards the local authorities.

It is coupled with shrinking budgets (from 340 million in 2003 to 53 million in 2013) and corresponding diminishing numbers of students in formal education.

Once the state no longer feels responsible, the budgets shrink and so too does the number of participants. Concerns about quality and continuity are valid. Large investments would be necessary to make education stronger, both with regard to quality and the type of courses on offer, but those means are not available, nor will they be (Van Schoonhoven 2012). But more money doesn't always lead to better education (De Bruyckere et al 2015).

But it can be done cheaper and smarter with proper use of digital learning resources and more attention to non-formal learning in other types of arrangements (Bersee & Vaske 2013).

Formal adult education is under pressure. So there is a shift towards non-formal education using digital materials.

Not everyone on *Oefenen.nl* is an active learner. A very large group of potential learners of basic skills is being reached. But enormous gains can still be made concerning the extent to which these potential learners are actually practising with the learning materials on offer.

The materials may be used in a variety of settings: at home, in the library, at school, in the community centre, open learning centre and at work. Different types of supervisors may use the materials: partner, children, language buddy, student, teaching assistant, library employee, teacher, online helpdesk etc. The materials may be used by a wide spectrum of social sectors and organisations. The online materials facilitate 'blended learning' (Smit & Bersee 2011).

The scale on which the materials are used demonstrates the great need for support of basic skills using online materials. Realising multimedia learning materials is the first step, but at the end they must be introduced to the target group. Cooperation with community organizations must take place as close to the target group as possible and on a small-scale. Local authorities can certainly play a decisive role. For instance the municipalities of Amsterdam (*Educatie werkt!* 2012; Fuhri Snethlage & De Groot 2014), The Hague and Utrecht facilitate non-profit and educational organisations in using online learning basic materials to improve basic skills for learners. These local governments buy licenses for *Oefenen.nl* for these organisations and also are helping to facilitate these organisations in using these. Such as for instance a large residents association that provides large-scale computer training with volunteers using the *Klik & Tik* programs.

Digital proficiency, like language proficiency and numeracy is one of the three core skills you need to participate in society. Digital proficiency has become a key to learn language and numeracy. And digital skills provide a springboard to other domains such as health, work, parenting and money. On a portal such as *Oefenen.nl*, adults can work on these skills digitally. This digital

self-service, outside formal education frameworks, offers many opportunities for people to further develop themselves.

The use of social media has much potential (Chovanec & Meckelborg 2011; Smythe & Fraser 2012). Lower educated adults people are often already active on mobile platforms and social media. They use Facebook, Skype and WhatsApp, they use text and play games. However, there is not yet a link to educational use and needs.

Learners may participate and be successful in online environments at various levels. Some people may need more support than others. There are very few barriers for adult learners to use the Internet for independent learning. There is more than enough evidence that they are happy to do so and improve themselves in the process. Using new media participants can make leaps – ‘bits and pieces’, ‘bite size morsels’ – with immediate results.

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