

**An Analysis of factors affecting reading comprehension
performance of Arabic ESL students using the Suffolk
Reading Scale.**

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Abstract

The aim of this study was to examine the effectiveness of the Suffolk Reading Scale, a standardised multiple-choice paper and pencil test of reading comprehension, as a reliable method of assessing the reading ability of a group of ESL Arabic children aged between 9-10 years who were pupils at an international school in Dubai. The results indicated that the ESL Arabic children scored significantly lower than the comparison groups of non-Arabic ESL children and children with English L1 of the same age and studying in the same class. The study discusses the possible reasons for the difficulties experienced by the Arabic ESL children in decoding English text and attempts to conduct an error analysis by searching for any patterns of error that could be accounted for by interference from the Arabic L1 and other problems experienced by Arabic readers in decoding English text including problems with word recognition and spelling patterns, lack of phonemic awareness and insufficient reading strategies.

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Chapter 1 Introduction and aims of the study

1.1 Introduction

The aims of this study are to examine some of the issues surrounding the assessment of reading and reading comprehension ability of ESL Arabic pupils aged between 9 and 10 years in an international primary school in Dubai, United Arab Emirates. The study also attempts to identify factors that may adversely affect the performance of Arabic ESL children undertaking a reading assessment known as the Suffolk Reading Scale, a standardised multiple-choice sentence completion reading test published in the United Kingdom. The research is based on an analysis of errors obtained from the test scores of a group of Arabic ESL children in the final term of their fifth year of formal schooling in a private international school in Dubai. It is hypothesised that the Suffolk Reading Scale (SRS) is possibly unsuitable as a means of assessing reading ability for ESL Arabic children because of their early exposure to the Arabic writing system and the difficulties experienced by Arabic readers in decoding English text caused by problems with word recognition and spelling patterns, unfamiliar vocabulary and wider issues connected to the cultural content of some of the test questions and target vocabulary including insufficient “world knowledge”.

First language (L1) reading research (Fender, 2008; Ehri, 2005) has demonstrated the importance of word recognition skills in reading and that “the predominant reoccurring process in fluent reading involves word recognition and identification”. Second language (L2) reading research indicates that “phonological and orthographic decoding skills play a major role in ESL reading development, and this is in part independent of ESL oral language proficiency and general vocabulary knowledge” (Fender, 2008).

Nassaji (2003) found that “orthographic and phonological processing skills differentiated the more skilled from the less skilled readers”. He also found that the extend to which ESL readers could make use of visual orthographic information such as spellings influenced reading ability more than phonological decoding skills. Randall (2007) examines the influences that Arabic may have on the processes of spelling and word recognition. He discusses the effect of Arabic orthography and script direction i.e. the

right-to-left direction of Arabic as causing “confusion in the way that letters are stored and retrieved when spelling words.” He compares the ‘regularity of Arabic spelling’ with the more irregular spelling system in English and argues that as Arabic is “highly transparent (and) there is no necessity in Arabic to adopt a holistic lexical route to word recognition ... Arab readers will not be sensitive to the onset and rime structure of English or to whole word recognition routes. Arab readers will prefer to use a phonological assembly GPC route.”

The incorrect responses made by the Arabic children in this study have been grouped according to the following five broad categories of errors: lexical, contextual, morphological, orthographic including spelling errors and cultural. These broad categories have been adapted from Ehri’s (1994) model of the phases of learning to read. Ehri identifies four developmental phases of the way learners read both familiar and unfamiliar words in print as logographic, novice alphabetic, mature alphabetic and orthographic. This study will attempt to classify the errors recorded against these developmental phases of reading development to try to identify whether the mistakes made by the Arabic ESL children are due to factors associated with the influence of L1 or are caused by inaccurate decoding skills as well as other problems linked to insufficient vocabulary or lack of cultural awareness.

1.2 Background and description of the problem

Having worked as a teacher of English at three private international schools in Dubai for the last eight years at both primary and junior school level I have developed an interest in reading assessment in general and reading comprehension tests in particular as these are routinely used by schools in the region as one of the main methods of measuring reading ability. All of the schools I have worked in chose to use the Suffolk Reading Scale (SRS) as the preferred method for assessing reading and having personally administered and marked the test papers for hundreds of international students over the years I began to notice similarities in the errors made by certain categories of students, especially the ESL Arabic children. I also noticed the degree of discomfort and anxiety exhibited by many

Arabic children when completing the reading test papers which many found simply too difficult and inaccessible. Many questions contained very long and unfamiliar words that could not be worked out by looking at the surrounding context clues due to the layout of the test which consists of sentences and a variety of possible words from which the student has to choose one correct answer. Picture or other content clues are not provided and the test taker has to rely on his or her knowledge of words to make the correct choice. Also, question sentences are not placed in any particular order in terms of content, although the difficulty of the words contained within the question sentences increases as the test progresses. Many words from the same word family or words from the within a similar context or subject have been added to the possible answer choices as intended distractions from the target word which adds to the difficulty for many ESL students in that many of the word choices given in the question sentences are chosen from a range of words with common roots or similar spellings for example, *friction/fraction* which, it is argued may cause difficulties for the Arabic students. Also, the test conditions of strict silence with limited help provided by the teacher, create an atmosphere of tension and I have observed that some Arabic children resorted to what appeared to be random guessing or simply gave up. Given the culture of testing in the region and especially the importance parents, teachers and schools place on the results of summative tests such as the Suffolk Reading Scale, I decided to conduct a small scale study of the test results to try to isolate possible patterns of errors and conduct a question-based item analysis to search for possible reasons for Arabic children making similar mistakes and for performing poorly compared to other non-Arabic ESL children in the same class and with similar exposure to the English language.

The problem under discussion in this study is concerned with the suitability of the SRS as a reliable test of reading ability for ESL Arabic learners who may not yet possess the skills, strategies and background knowledge to perform well in written reading comprehension tests.

1.3 Summary and evaluation of the Suffolk Reading Scale

The Revised Suffolk Reading Scale 2 (SRS2) published by GL assessment in 2002 purports to “measure, on an authority-wide basis, children’s ability to make sense of the written word and to achieve meaningful measurements of reading ability across the ability range” (Hagley, 2002). It is a standardised school-based test of reading ability with question items that are all of the multiple-choice type. There are three levels of the SRS2 as it is known, to be used with different year groups. Each level has two parallel forms – Form A and Form B. However, in this study level Form 2B only was used (appendix 1). Raw scores from the test can be converted to give a reading age using conversion tables provided in the accompanying Teacher’s Guide (appendix 2). The designers of the test suggest that the results can be used to estimate the reading ability of individual pupils relative to a nationally representative standard and help evaluate the overall standard of reading within a group of pupils which might lead to a closer examination of factors affecting reading ability. The test results can also be used to evaluate the approaches used by schools for the teaching of reading and the selection of suitable reading materials. One of the aims in developing the SRS2 was to conduct a wide-scale measurement of reading progress and it is for this reason that the multiple – choice sentence completion format was chosen, mainly because it enabled easy scoring and statistical analysis.

The Teacher’s Guide claims that the booklet format is appealing to children as it removes the “negative appraisal or excessive pressure experienced by some children when reading aloud to parents or others” and the test designers believe that a written test is a less stressful method of assessing reading comprehension. However, it is noted that “some individuals respond inconsistently because they are inattentive, distractable or poorly motivated” and that there were “limitations to the reliability of measurements among pupils with a very limited grasp of reading.” It is argued in this study, that poor motivation and anxiety linked to the unsuitability of this type of reading test amongst ESL Arabic children may adversely affect their performance and cause further stress for them, their families and ultimately their teachers who will probably have a harder job trying to encourage these children to read more books in English.

1.4 Outline of research questions

The problem under discussion in this study is concerned with the analysis of the SRS2 as an effective tool for measuring reading comprehension ability of ESL Arabic learners. It is hypothesised that this type of reading test is an unreliable method of assessing reading comprehension ability of ESL Arabic children because they do not possess the skills, strategies and background knowledge to perform well in written comprehension tests of this type. Other related research questions include an evaluation of the extent to which the SRS2 relies on the learner's vocabulary knowledge and cultural knowledge or 'schema' as opposed to the bottom-up skills of word recognition and phonological processing. There is some evidence in recent studies in the field of ESL reading comprehension that the oral processing of language is very important especially when the learner is at an early stage of understanding a language (Amer, 1997). Amer's research shows that reading aloud by both teacher and student is important for ESL learners as this aids the process of reading comprehension. In my own experience as a class teacher, I have noticed that most children, and especially Arabic children enjoy reading aloud to their teacher or other supportive adult and that they seem to find it more difficult to understand text when asked to read in silence as so many schools in the region do, for reasons more to do with class control than educational benefit.

Another recent study by Fender (2008) on the relationship between spelling knowledge and reading development found that Arab ESL learners had more difficulties in acquiring reading skills than other ESL students and also discovered that test scores based on listening comprehension for Arab and non-Arab ESL students were not significantly different but that Arab students scored much lower on the spelling and reading comprehension tests compared to non-Arab ESL students. Other studies have indicated that Arab ESL students were much better in the development of speaking and listening skills compared to other literacy skills such as reading and writing. (Fender, 2003; Ryan and Meara, 1991). Closer to home in the UAE, Gobert (2009) discusses the need for more "reading aloud" in the classroom both for the student and the teacher as reading aloud has many benefits for the Arab learners and "involves highly complex cognitive

processes and is a useful tool that deserves a more central role in the development of literacy.”

The authors of the revised Suffolk Reading Scale 2 suggest that the results of the test may be used to help teachers evaluate the overall standard of reading within a group and also as a starting point which might lead to an examination of “factors that affect reading ability” (Hagley, 2002). However, the SRS 2 is not designed to cater for the individual needs of ESL students studying in schools overseas and this is reflected to some extent in the type of vocabulary contained in the question sentences which assume a level of “world knowledge” and cultural awareness not always available to ESL learners depending on their exposure to the English language and the length of time spent learning new words as well as developing essential word recognition or decoding skills. Another very important factor is the age at which ESL learners begin learning to read in English, as phonological awareness is much easier to acquire at a younger age.

New research by Webb (2009) has revealed that “word learning age” is a key aspect of reading comprehension development and that the age at which children learn words is a vital factor in predicting how children will read as they age. This study reveals that “early word recognition is the key to lifelong reading skills.” This research finding may help to explain why ESL children who are still at an early stage in the process of learning to read in English find certain types of written reading comprehension tests difficult, possibly because of their poorly developed reading skills and also because of insufficient time spent learning new vocabulary. The Rose Report (2006) describes the two dimensions of reading as “word recognition” and “language comprehension” and the report makes clear the importance of teaching phonic skills to young children learning to read. The report emphasises that children need to be taught grapheme-phoneme correspondence and to apply the skill of blending or synthesising phonemes and to understand that blending and segmenting are reversible processes. The report also stresses that these skills need to be learnt within a limited time frame, as the majority of children need to be confident readers by the end of Key Stage 1 or the year in which they turn seven years of age. However, with regard to ESL Arabic young learners from an expatriate community such

as Dubai, many of these children are not yet confident readers either in Arabic or English due to a variety of factors. Poor word recognition skills and lack of phonological awareness in the English language coupled with poor general language and vocabulary skills put this group of learners at a considerable disadvantage compared to, for example, native speakers of English or other non-Arabic languages where the child may have been exposed to phonics teaching. Also, there is much evidence from current research into the reading habits of Arabs in general and in particular the Emirati student community within the United Arab Emirates, of the lack of a culture of reading both in the Arabic and English language (Gobert, 2009).

Therefore, the ESL Arabic learner may well be still at a very early stage in the process of learning how to decode words and will be unable to focus on the higher order reading strategies needed when faced with new and unfamiliar vocabulary. Anderson (2009) notes that "... the basic processes required to read Arabic efficiently differ in fundamental ways from those required to read in English, limiting their ability to deal with text." Anderson goes on to suggest the need for the cultivation of "real readers, where reading is not something that starts and stops at the classroom door...and that practitioners need to consider affective factors, the social dimension of reading, and the institutional frameworks that create the conditions for learning." Although Anderson is referring to the teaching of reading at tertiary level within the higher colleges in the region, his comments are also very relevant for teachers in the primary school sector where the basics of reading skills and reading strategies can be instilled when children are at a very receptive stage of development.

Vellutino (1987) discusses individual differences as sources of variability in reading comprehension and describes word recognition as "the process whereby the individual visually recognises a particular array of letters as a familiar word and retrieves the name and meaning of that word from memory." He also outlines individual differences in the knowledge and skills involved in word recognition ability including "dispositions such as the reader's motivation, goals and purposes" and also the influence of "related factors such as home, family background, classroom culture and sub-cultural factors." He argues

that fluency in word recognition is a “prerequisite for adequate reading comprehension” and describes the higher-level cognitive processes that affect language comprehension as involving “application of world knowledge or domain –specific knowledge and reasoning, which do not become fully operative in text comprehension until the child has acquired fluency”. Vellutino argues that L2 reading comprehension ability will be influenced by the reading strategies and comprehension skills developed in the first language, and as has been discussed earlier, many Arabic children do not come from backgrounds that support the development of a culture of reading or good reading habits in either the Arabic or English language. As a result, it is argued that Arabic ESL students will not possess efficient reading comprehension skills.

1.5 Description of the school setting

The school used as the focus for the study is a well respected private junior school for international students from mostly expatriate families based in a quiet residential district on the outskirts of Dubai. The school caters for children from KG through to year six and follows a combination of the International Primary Curriculum and the UK National Curriculum. Many of the children have an Asian background and at that time my Year 5 class of 26 children was comprised of children from 22 different nationalities including 10 children of Arabic nationality including some Emirati children. The English language skills of the students vary considerably depending on a number of factors such as: length of time exposed to the English language, the language used in the home, the degree of English language proficiency of the parents, level of student motivation, evidence of special needs and in some cases the home environment. The language of instruction in the school is English, with separate lessons in the study of Arabic and French. Most of the teachers are expatriates from the UK, Europe, Canada, Australia and America apart from the specialist Arabic and French teachers who are mostly from Non-Gulf Arab countries including Egypt, Lebanon and Morocco. The English curriculum at the school uses a text book approach and lessons include regular whole class shared reading, involving the teacher reading aloud a comprehension passage and then explaining how to answer questions using evidence from the text. The difference between literal and inferential type questions is explained to the children, and they are encouraged to use

dictionaries to look up the meanings of unfamiliar words. Picture cues are widely used and children for whom English is an additional language receive extra help for one to two periods a week in small groups with a specialist English as an Additional Language (EAL) teacher. In addition, children participate in guided reading once a week for a twenty minute session with the class teacher. During guided reading lessons, children are grouped according to ability and either individually or as a group, read the same text aloud to the teacher and then answer orally a range of word level and text level comprehension type questions either in pairs or as a group. Reading aloud to the teacher is encouraged and it was noted that this type of small group supported reading activity particularly helped the ESL children who felt less threatened and more prepared to take risks, ask questions and have a go at pronouncing difficult words. They also enjoyed listening to the views of other children on aspects of the plot or characterisation in the texts. As a teacher, I noticed that the Arabic children particularly enjoyed these more intimate reading sessions as they enjoyed the close attention of an adult and made good progress in acquiring new vocabulary.

1.6 Literacy in the United Arab Emirates

The issue of literacy within the United Arab Emirates is high on the list of topics for consideration by those responsible for educational policy. According to statistics from a report conducted by Education for All (EFA), the Global Monitoring Report on Literacy (2006), the United Arab Emirates was praised for achieving a 77.3 per cent adult literacy rate in the Arabic language as measured at the end of 2004. However, it was noted that in order to reach the objectives set by the EFA for 2015 there is still a significant need for an increase in the funding of literacy programmes at all levels. Ludwick (2003) attempts to define literacy in terms of the four literacy resources: code-breaking resources or coding practice, text-using resources or pragmatic practice, text-participating resources or semantic practice and text-analysing resources or critical practice. According to Ludwig, these four literacy resources were developed by “using an anthropological lens to see how theories look in practice and so the set is in essence a taxonomy of the kinds of capabilities required to be fully and functionally literate.”

McLean and Goldstein (1988) stress that reading achievement is not “unidimensional” and describe the concept of “multiple literacies”. They argue that in order “To predict with any accuracy which reading materials an individual will be able to comprehend, we must know that person’s prior knowledge and cultural experiences.” They also point out that when reading text, “people tend to exhibit different performances in different contexts, since interest, motivation, intention and the like all play a role.”

The OECD/PISA reading assessment (2003) attempts to measure the five processes or aspects of reading literacy in terms of an individual’s ability to demonstrate proficiency in all of the following :

- retrieving information
- forming a broad general understanding
- developing an interpretation
- reflecting on and evaluating the content of a text
- reflecting on and evaluating the form of a text

However, it is much more difficult for Arab learners to become proficient readers of English text because the cognitive processes used by Arabs to read in Arabic are different to the processes needed to read English words. In addition Arabic students may have problems with the English spelling system and differences in grammar and vocabulary. Arabic students may have problems with word knowledge including word families and word formation and the different interpretations of one word in different contexts. Arab students have also been found to have problems with conjunctions in English e.g. “that”, “which” as well as verb/noun differences e.g. “intend” or “intention” (Nelson & Scmitt, 1989). In a later study, Schmitt (2008) concluded that there are between 8,000-9,000 word families in written English and between 5,000-7,000 for oral discourse, as well as the different “word knowledge” aspects of these individual words. Schmitt argues that this is very difficult to learn for most L2 readers.

1.7 Educational reform in the United Arab Emirates

As a result of the need to raise standards in education in both the public and private sectors, the Government of the United Arab Emirates has been involved in the planning and execution of an extensive project of educational reform. Part of this process involved the establishment of the Knowledge and Human Development Authority (KHDA) in 2006, with the main aim of bringing the knowledge and human resources sector up to international standards. At the same time there have been many initiatives developed to help improve the teaching of reading within the tertiary sector, especially the Higher Colleges of Technology. David Anderson (2009), in his introduction to a recent publication of papers based on reading research at the Higher Colleges, stresses the importance of developing word recognition skills and also emphasises the importance of “efficient bottom-up skills in reading, in other words letter recognition, word recognition, phonics and automaticity.”

Gobert (2009) laments the lack of a “culture of reading” in both the Arabic and English language amongst many students studying at the Higher Colleges in the United Arab Emirates. This is echoed by O’Sullivan (2004) who explores the evidence of the “post-linguistic” culture, where visual images have become more important than the printed text and comments that the lack of a reading habit in the UAE is due to “the prized oral tradition in Gulf societies” (Shannon,2003).

O’Sullivan believes that the issue of “diglossia” is also a contributory factor here in the Gulf and elsewhere with Arab students, in that standard Arabic is often the students’ second language and colloquial Arabic their mother tongue. The implications being that “reading skills in Arabic for many students are at second language interlanguage levels and that English is actually their third language.” O’Sullivan goes on to assert that students in the UAE possibly lack sufficient background knowledge and global awareness to access meaning from English text. He concludes that more efforts need to be focused on helping students acquire a greater vocabulary and better “bottom-up” reading skills rather than continuing to approach the teaching of reading through the use of “top-down” strategies.

One of the main targets of the KHDA is school improvement and this has led to the new Dubai School Inspection Bureau (DSIB) which has been put in place, in the words of the School Inspection Handbook (2008) "... to work towards developing, defining and measuring education quality in order to support the improvement of education in Dubai." To do this, the inspectors will use quality indicators to make evaluations based on how well students perform, the quality of education and care provided by the school, and the effectiveness of leadership and management. A four point scale is used to grade schools according to the following categories: outstanding, good, acceptable or unsatisfactory. Summary reports of all schools inspected will be published on the KHDA website and are designed to guide a school towards improvement as well as providing information for parents. The plan is, that by the end of this year (2009), all private and public schools in Dubai will have been inspected and the summary reports made publicly available. In addition, 130 schools are participating in the Program for International Student Assessment (PISA) an internationally standardised assessment developed by the OECD (Organisation for Economic Cooperation and Development) to assess the reading, mathematics and science literacy of 15-year-olds in participating countries. This assessment is focusing 80 per cent on reading skills and the remaining 20 per cent on Science and Mathematics knowledge and skills. The decision of many schools in the region to participate in this pilot study demonstrates the desire to establish benchmarks against which to measure the performance of schools not only in the region but also against the achievements of students of a similar age from around the world. Many private schools often claim to provide a 'world class' standard of education, but few schools actually have reliable data to support such claims, hence the recent interest amongst school owners, and policy makers to search for reliable methods of measuring school performance. The PISA assessments will help schools establish where every pupil's attainment lies in relation to that expected for their age and help to measure the progress of individual pupils, classes and schools. This will help schools identify the strengths and weaknesses in pupils' learning of English and identify training needs and allow for meaningful targets for improvement to be set with clear feedback as to whether or not they are being achieved.

It is clear that the teaching and assessment of reading is a vital component in raising levels of literacy amongst Arabic learners and it is for this reason, having worked as a teacher in Dubai for the last 8 years, that I decided to focus my research study on reading assessment in the private sector with the focus on ESL Arabic children aged between 9-10 years. English is a very important school subject for second language learners, especially as English is the main medium of instruction in the majority of private schools in the region and will soon be the medium of instruction for the core subjects in the government schools as well.

In 2006, the Ministry of Education set up a project of school improvement in the five Northern Emirates. ADEC (Abu Dhabi Education Council) embarked on a major reform of the public school system because the government wanted to raise the standards of education in the public sector in an effort to meet international standards. The aim is to enable students to acquire proficiency in English language skills in order to be able to progress to tertiary education courses in English and access English degree courses without the need for a foundation year in English language teaching. To do this, ADEC has enlisted the help of a number of independent educational providers to manage clusters of schools. One of the providers is an educational trust known as the Centre for British Teachers (CfBT) with responsibility for 24 schools involved in the PPP project or public-private-partnership. This will be a partnership between CfBT Partnership Teachers and the existing government teachers and a key part of the role of the Partnership Teachers is to model good practice by demonstrating teaching techniques and the implementation of differentiated planning on a daily basis. ADEC hopes to introduce an increased use of English in the government schools and create a bilingual learning environment without compromising the children's mother tongue or undermine the importance of the Arabic language and culture. CfBT will promote the importance of Emirati culture and heritage and will work alongside the mostly female Emirati teachers in the primary school sector. Students in the Gulf will need to be proficient enough in English to be able to "access and understand multimedia resources and information and be able to operate internationally in business using English as a common language with other nationalities" (CFBT, 2009).

ADEC's main aims are to strengthen the use of English in the schools and introduce English as the medium of instruction for Mathematics, Science and ICT in KG, primary and lower secondary schools. A similar school improvement project known as SIP is also being organised in Dubai. Again, the main aim is to enable Grade 12 students to graduate from high school and begin a university education without needing a foundation year of English language teaching. These 'sweeping reforms of public education in the UAE will affect more than 280,000 public schools...and will rely on setting educational milestones to measure student achievement.' as reported in The National Newspaper (31/8/08). The reforms will lead to the implementation of national assessments being introduced gradually over the next few years. A big part of the process will involve teacher training and a focus on modern skills based teaching methods. Government teachers will be expected to take part in a planned programme of workshops and continuous professional development training on a range of generic issues including differentiation and classroom management.

Chapter 2

ESL Arabic reading ability and a review of relevant research

2.1 Skills involved in learning to read in English and the difficulties experienced by Arabic ESL learners in decoding unfamiliar words.

“In making meaning from a text, skilled readers use a combination of visual, phonological and semantic information, taken from the letters, words and sentences of the text.” (Cameron, 2001) However, when Arabic learners are faced with the task of learning to read in English, there are many factors that are like to have an impact on their ability to extract meaning from the text including their level of phonological awareness and the reading strategies they are able to deploy. English is a phonologically complex language and is far more irregular than Arabic. Vellutino (1987) describes phonological awareness as the child’s “conceptual grasp and explicit awareness that spoken words consist of segments such as syllables and individual speech sounds or phonemes.” He asserts that poor oral language skills can lead to difficulties in the acquisition of essential word recognition skills for ESL children.

The importance of phonics has been widely discussed in the context of native speaking English children learning to read and is recommended by the Rose Report on the teaching of early reading (2006). This report emphasises the two ‘dimensions’ of reading as ‘word recognition’ and ‘language comprehension’ described in detail in the Simple View of Reading or SVR (Gough& Tunmer, 1986). The Simple View of Reading describes reading comprehension as “the product or sum of a reader’s word decoding and listening comprehension skills.” This model of reading also makes clear that although both dimensions of reading are essential in order to achieve fluency, the balance between the two processes of language comprehension and word recognition “shifts as children acquire secure and automatic decoding skills and progress from ‘learning to read’ to ‘reading to learn’ and also that “The ultimate goal of learning to read is comprehension.”

Young native speakers of English attending British Curriculum schools will more than likely have been exposed to some degree of phonics instruction and will have been taught grapheme-phoneme correspondences and the skill of blending phonemes as part of the Foundation Stage of the British National Curriculum. Most UK trained primary school teachers recognise the importance of teaching letter sounds or phonics as an integral stage of teaching children to read. Phonemes are the speech sounds and graphemes are the mental images of letters. However, ESL Arabic learners may not have acquired these phonic skills, due to a number of factors including: teaching methods, length of time spent learning English and interference from their first language (L1) and as a result, may have problems hearing the individual sounds and syllables that make up words.

Ehri (1994) describes the process of learning to read for native speakers of English as involving four distinct developmental phases known as: the pre-alphabetic, partial alphabetic, full alphabetic and consolidated alphabetic stages. At the pre-alphabetic stage the reader does not make any letter/sound connections but uses the visual features or “cues” of the word to extract meaning. At this stage the reader is not noticing many salient letter features and Frith called this phase the “logographic” phase. Ehri gives an example of a child reading the word “crest” as “brush teeth” because they are relying on the context rather than the letters. It is hypothesised in this study that some of the ESL Arabic children may be using this type of pre-alphabetic early reading strategy of relying on the context of the sentence when faced with unfamiliar words in reading comprehension tests. In the second phase of Ehri’s reading development model, the reader uses a strategy of only reading the most important letters in a word, which she claims are usually the first and final letters, or letters “congruent to pronunciation” such as the letters LFT for “elephant”. Ehri also discusses the “reciprocal relationship” between spelling and reading and links the process of memorising words or “sight reading” as helping children learn how to spell. Fender (2008) found that “ESL children have exhibited moderate to strong correlations between English word recognition, spelling and reading comprehension.” Fender also observes that many ESL researchers have “noted a discrepancy in the emergence of oral and aural English language skills and the emergence of English literacy skills among Arab ESL students.” He argues that the

main difficulties experienced by Arab ESL students seems to be in understanding the orthography and spelling patterns of English words which causes other problems with reading comprehension. Fender's study on the links between spelling knowledge and reading development is very relevant to my own small study as I am interested to see to what extent the errors made by the Arabic ESL students can be attributed to spelling problems linked to the morphology of the English language.

2.2 Word recognition in English and Arabic

The process of learning to read has been described as a “psycholinguistic guessing game” in which the “reader reconstructs, as best he can, a message which has been encoded by a writer as a graphic display” (Goodman, 1971). When learning to read in both L1 and L2, many skills are needed in order to make sense of the text. Learners will need to develop knowledge of letter sounds and shapes, blend sounds to syllables and relate letter sounds to shapes. When learning to read in English, Arabic learners will need to learn a new alphabetic script and new spelling patterns. They will also need to develop the skill of breaking syllables into onset and rime, break words into morphemes and syllables and recognise some words by sight. At sentence level, learners will need to be able to work out how clauses relate to each other, have knowledge of word order and understand sentence punctuation. They will also need a large vocabulary and other general background knowledge of the culture of the L2 they are learning.

Learning to read in a second or third language will pose more challenges, depending on the nature of the first language. Birch (2002) describes L2 reading as involving both “top-down” and “bottom-up” processing. “Bottom-up” processing strategies involve phonological decoding skills such as identifying individual letters and identifying syllables. Higher level strategies include skills such as predicting, inferencing and problem solving to construct meanings.

Vellutino (1987) describes the components of word recognition as “print awareness” or an understanding of the writing system, alphabetic knowledge, phonological decoding skills and spelling knowledge. He explains that written English contains many words that look similar, for example: *pot/top*, *was/saw* because some of the letters are the same and that this causes problems for ESL learners who will not be able to rely on the

“logographic approach to word identification” but instead need to be able to discriminate between the individual letters of the alphabet and learn how to use the letter sounds. In addition, ESL learners will also need to learn irregular spellings (said, where, their) and recognize them on sight as these words cannot be easily decoded by sounding out the letters.

Studies on the ability of ESL Arabic learners to decode words in English indicate that the comprehension difficulties experienced by Arabic students are linked to problems with word identification or “bottom-up” processing (Birch, 2002; Koda, 2005). Randall and Meara’s (1988) study found that Arabic learners were relying on visual processing rather than grapheme/phoneme processing and tended to concentrate on the position of the consonants when reading words, rather than the position of the vowels. This has been termed “vowel blindness” (Ryan & Meara, 1997) in the Arab students because as the Arabic language is consonantal, the Arabic readers are not used to noticing vowels. According to Ryan, one of the main reasons for the errors in word identification made by Arabic speakers “lies in their inaccurate perception of vowels in English”. Ryan claims that this difficulty is caused by “the continuation of cognitive processing strategies suitable for handling the tri-consonantal root system of Arabic but not for the morphological system of English”. In another study based in the UAE, Sadhwani (2005) discovered from her research on spelling errors with Arab students learning English, that they experienced problems with identifying and processing phonemes.

Similar research has revealed that reading in Arabic orthography does not correlate very well with reading comprehension and that it is important not to confuse the two skills of reading accuracy and reading comprehension (Toshihiko and Weir, 2007).

Much has been written about the problems Arabic learners may face with word recognition in English and the importance of phonemic awareness. In Fender’s study (2008), it was found that Arabic ESL students scored significantly lower on spelling and reading comprehension tests than a comparison group of non-Arab ESL learners. It was

suggested that these learners "...may experience difficulties acquiring aspects of English literacy, namely, orthographic or spelling representations of English words."

Birch notes that many L2 learners find learning new vocabulary difficult as a result of being "...overwhelmed by the numerous variables that affect new vocabulary including: acoustic similarity, word length, pronounceability, orthography and word class." Birch further points out that many ESL students may not yet have "...all of the necessary semantic information to understand the word and its meaning...or lack knowledge of the social or other connotations that words have.." She asserts that students should be allowed the time and opportunity to "...acquire automaticity in reading before being moved on to more challenging material."

I am concerned that the school in this study and other similar schools in the region are exposing ESL Arabic children to very challenging reading comprehension tests that they are not yet ready to process and that this could have a negative impact on their motivation to read in English. Vellutino (1987) describes the nonlinguistic abilities that are necessary components of reading comprehension ability and how lack of attention can be caused by factors such as: limited vocabulary, poor word recognition skills, limited interest in the text, and poor motivation for reading. He also argues that the engagement and motivation of ESL readers can be affected by many variables including the effects of the home background and the "quality of reading instruction to which the child has been exposed especially during the initial periods of reading development".

2.3 The Arabic writing system and the importance of spelling skills

Cook (2005) defines a writing system as "a set of signs...used to represent units of language in a systematic way." She defines orthography as the set of rules for using a script in a particular way including: sound-symbol correspondences, capitalisation, punctuation, hyphenation etc. Writing systems can be categorised as being consonantal, morphemic, alphabetic or syllabic. Cook describes the script of a writing system as the "graphic form of the units of a writing system" and she discusses the importance of the

concept of “phonological transparency” as applied to different types of writing system and how this can affect the learning process in L2 readers. English is a sound-based writing system connecting graphemes with the sounds of speech whereas Arabic is a consonantal language with a more regular spelling system. Arabic is often described as “transparent” whereas English is more irregular and “deep” (Randall, 2007).

Randall highlights the different syllabic and word structures of English and Arabic and discusses the different cognitive processes employed by Arabic learners when attempting to decode text due to the effects of Arabic interference on word recognition and spelling skills. Randall highlights the importance of spelling as ‘...a crucial component of reading ... (and describes spelling as) ...the understanding of orthographic rules, the ability to recognise patterns of letters and recognise words.’

The “Triangle Model” (Seidenberg&McClelland, 1989) describes the two processes for decoding print in terms of the grapheme – phoneme conversion route (GPC) and the whole word or lexical route and is known as the “dual route theory”. This model of reading, according to Randall, is more suited to the English orthographic system and less suitable for the more transparent orthographies such as Arabic. Randall also observes that due to cognitive processing differences, Arab readers are “much less sensitive to vowel differences between words” because Arabic has a much simpler vowel system than English which is a phonologically complex language, consisting of 21 vowels and diphthongs; a diphthong being a sound like /ai/. English also has 24 consonants and 49 consonant clusters which can occur at the beginning and the end of syllables. For example in English there are (CC) V (CC) words like *flask* and (CCC) V (CCC) words like *string*. Therefore, there are a huge variety of syllable possibilities in English whereas in contrast, Arabic has no consonant clusters and a much simpler vowel system than English. Arabic readers of English find it difficult to distinguish between the different phonological sounds and also experience difficulties with recognizing salient vowel sounds. Randall asserts that “as a consequence of the CVCV structure, Arab readers will not perceive whole syllables in English and ... will not be sensitive to the onset + rime pattern which... has been suggested as a crucial element in English word recognition.

Ryan and Meara (1991) found that Arab ESL learners had problems decoding unfamiliar English words “in isolated context-free environments...and this may be due to difficulties in perceiving precise English orthographic forms.” It is argued that the SRS is asking students to understand sentences and new vocabulary without the help of supporting context or pictures and that this adds to the problems for Arab ESL students. Abu-Rabia (2001) found that Arabic readers have learnt how to rely on “partial spelling information to identify the root Arabic morpheme, as well as the sentence context to fully identify the word.” and Fender (2008) notes that if Arabic ESL readers use the same processing skills carried over from L1 this may limit their ability to develop efficient spelling skills in English.

When native speakers of English read words in English they search for the significant features of the word and research has shown that there is a clear initial-final-middle order of letter salience (Bruner&O’Dowd, 1958) and this has been termed the ‘bathtub effect’ by Aitchison (1989). Other research by Randall and Meara (1988) found that letter recognition in English native speakers was faster in the left and slower in the middle of the word whereas the Arab readers used a different strategy and this was represented by a U-shaped curve where the letter recognition was faster in the middle of the word, possibly because they are looking for the root letters. This research has provided evidence for the different processing systems in English and Arabic which could account for the problems many ESL Arabic learners have in reading English words and in spelling English words. It is suggested by Randall that “Arab readers will prefer to use a phonological assembly GPC route” when reading in Arabic and that this involves sounding out the words and adding the vowels. In addition, ESL Arabic readers of English will be more inclined to look for the consonants due to the fact that Arabic is a consonantal language and according to Randall, “Arab L1 readers will not pay attention to the vowel graphemes in English as they have no experience of the vowel letters being important. They will expect most letters to be consonants.” Randall also explains that as letters are not usually combined to form new sounds in the Arabic language, Arabic

readers will experience difficulty with consonant digraphs in English such as “th”, “sh” and “ch”.

It has been observed by teachers and researchers in the field that Arabic students are better at oral and listening reading comprehension tests than written reading comprehension tests possibly due to insufficient reading strategies (Saito, Thomas & Horwitz, 1999). This study discusses test anxiety caused by “unfamiliar scripts, different writing systems and unfamiliar cultural material as well as unfamiliar phonology. In this study it is suggested that:

“...processing difficulties may cause reading avoidance...ESL students will just give up if they can’t process words...” (Saito, Thomas & Horwitz, 1999)

In another study it was found that anxious subjects displayed poor comprehension skills compared to non-anxious subjects (Clavo, 1996). Another study by Sanz (1999) describes the relationship between reading anxiety and reading comprehension and suggests that some ESL learners didn’t “have the tools to achieve high scores in reading comprehension or effective reading strategies.”

“Silent” written tests of reading such as the Suffolk Reading Test, do not allow for the importance of reading aloud or subvocalisation (reading aloud in the head) as an important strategy used by many ESL learners. Due to the differences between Arabic and English, Arab ESL learners may well need to sound out new words to take account of the vowels. Many young children tend to read out loud even if very quietly, as this process of voicing the words seems to help them process the meanings better. The triangle model of word recognition (Seidenberg&McClelland,1989) in English relies on four cognitive processes known as the phonological processor involving speech sounds, the orthographic processor involving reading and writing which both feed into the meaning processor which is linked to the context processor. However, as has been discussed earlier in this paper, Arabic readers use different cognitive processing systems (Randall, 2007).

Errors in reading text can occur for a number of reasons including inaccurate pronunciation. The Simple View of Reading (Gough&Tunmer, 1986) describes reading

comprehension as the product or sum of a reader's word decoding and listening comprehension skills. This is supported by later research by Paris and Paris, (2003) which highlighted the importance of oral language skills as central to early reading comprehension ability.

The Suffolk reading test relies heavily on word identification which would indicate that subjects will need to possess a reasonably well developed range of spelling skills to score well in the test. In native speakers young children begin to spell some words by sight and use phonic spelling to write independently around the age of five. They start to use letter combinations when writing words e.g. clusters, blends and digraphs and rely on visual spelling patterns. ESL children may not be at the same developmental stage depending on the age they were introduced to the English language and this will have an impact on their word recognition skills, especially for Arabic children.

2.4 Factors involved in assessing Arabic ESL reading comprehension

The teaching of reading is obviously central to the development of ESL language skills and the ability of learners to access the wider curriculum. Therefore, the assessment of reading is a very important tool for helping teachers evaluate the success or otherwise of the reading curriculum. The results of these tests are sometimes used to feed back into the planning for literacy lessons and are also a useful way of identifying students who may have problems with reading. Assessment can be formative and takes place during normal classroom activities to inform the teacher's planning or it can be summative, that is at the end of a unit of work or more commonly at the end of a term or school year. Carrell (1983) discusses the relationship between ESL reading comprehension and background knowledge "which goes far beyond linguistic knowledge" and what she terms culture-specific background knowledge. Coady (1979) elaborates further to describe ESL reading as where "...the ESL reader's background knowledge interacts with conceptual abilities and process strategies to produce comprehension process strategies." Many reading tests designed to assess reading are silent paper and pencil tests and do not cater to the individual needs of young ESL learners or take account of different learning styles. Research by Rea-Dickins and Rixon (1999) found that the most frequently used

method of assessment consisted of testing single items of vocabulary and grammar through single sentences. They found that this type of testing was in direct contrast to the more interactive classroom environments and learning methods with which the children were more familiar. Many children perform better on reading tests when being allowed to read aloud or answer questions orally in a non-threatening environment whereas they can feel anxious and frustrated when asked to work in isolation and in silence under strict timed examination conditions.

It has been found that the age at which young children start to learn to read can have an important impact on reading ability later on. New research by Webb (2009) reveals that “word learning age” is a key aspect of reading. In this study, it was found that the age at which children have been exposed to text, is the key to understanding how people read in later life. Words learnt at a younger age were remembered much faster. The importance of vocabulary knowledge in L2 reading has been highlighted by Qian (1999) who found that depth of vocabulary knowledge made a “...unique contribution to L2 reading.” The quality of lexical knowledge or how well the learner knows a word has been described as essential by Meara (1996) who categorized “knowing” a word as having an understanding of the word’s spelling, pronunciation, register, morphological meaning, syntactic relationship with other words and collocation meanings. When L2 learners are faced with new or unfamiliar words, especially in reading comprehension tests, learners employ what is termed lexical inferencing or informed guessing based on the available linguistic and non-linguistic cues in the text (Kintsch, 1988).

Inferencing, or reading between the lines, is an important cognitive process that L2 learners will need to use when trying to make sense of text. (Brown & Yule 1983). There are many factors affecting the ability of L2 learners to apply inferencing skills such as the nature of the word and the text that contains the word (Paribakht & Wesche 1993), the context of the surrounding text and the learner’s ability to make use of extra-textual cues (de Bot et al., 1997 Haastrop 1991). The background knowledge that the L2 learner brings to the text are also very important as well as the reading strategies that are made use of during the reading process. Nagy (1997) discusses the importance of pre-existing

knowledge bases and how these knowledge bases influence the learners' strategy use and success. He defines knowledge bases as consisting of linguistic knowledge, world knowledge and strategic knowledge. Linguistic knowledge includes: syntactic knowledge, lexical knowledge, knowledge of word schema or what the word means. Nagy defines world knowledge as the learners understanding and use of various domains of knowledge including strategic knowledge of the actual strategies that learners can use when deducing meanings of unknown words from the surrounding context. In a recent study by Nassaji (2007) a link was revealed between vocabulary knowledge and reading strategies including inferencing. Nassaji found that there is a significant relationship between depth of vocabulary knowledge and the degree and type of reading strategies used by L2 learners and the level of success achieved. His results showed that learners possessing a stronger depth of vocabulary knowledge used certain strategies more frequently than learners possessing a weaker depth of vocabulary knowledge. This research is relevant to my own investigation into the factors affecting Arabic ESL reading comprehension test results as many of the test questions rely on the student's knowledge of a wide range of culturally specific vocabulary.

Read (1997) describes the use of multiple-choice type reading assessment test such as the Suffolk Reading Scale, as distinguishing learners according to their level of vocabulary knowledge. He asserts that L2 learners reading comprehension ability is "...strongly related to their level of vocabulary knowledge...". He also raises an important issue in testing reading in terms of the importance of "knowing" a lot of words as a valid measure of proficiency in a second language. Read points out that this type of reading assessment where the target word or correct answer is needed in a multiple choice type question is in part, simply a test of receptive not productive competence in the language. He asks the question:

"To what extent are the test-takers being assessed on their ability to engage with the context provided in the test – do they have to make use of contextual information – or just respond as if the word was in isolation..."

He goes on to discuss the various kinds of words used in comprehension tests and the skills required by the learners to be successful in locating correct answers. Read discusses the components of word knowledge as including: position of the word – the grammatical patterns and collocations associated with a particular word, also: frequency, appropriateness, word meaning and associations. He discusses the tendency for test-setters to rely on the use of content words such as nouns, full verbs, adjectives and adverbs that have little meaning when read in isolation but more often serve to provide links within sentences. Sets of words sharing a common meaning, known as word families are also popular features in reading comprehension tests e.g. the word “society” has other words in the family sharing a similar meaning such as social and socialism. In the SRS, many words from the same word family are given as possible choices making it difficult for Arabic and other ESL readers to select the target word.

Vellutino(1987) defines language processing as depending on an individual’s phonological memory and the person’s ability to retrieve relevant verbal information from the long-term memory and relate this information when trying to comprehend text. He explains that the ESL learner will also need to use discourse knowledge to differentiate between different types of text. In addition, he defines “schemata” in terms of “complex mental structures” containing stores of a person’s world knowledge or knowledge of events that occur both inside and outside their experience and also their “domain-specific” knowledge or knowledge of specific subject or content areas such as sport, literature or music. When ESL learners are trying to understand text they will need to make use of all these cognitive processes. In the present study, the Arabic ESL students may not possess sufficient world knowledge or domain-specific knowledge to be able to extract meaning from the test sentences in the SRS and may well become over anxious leading to demotivation, disengagement and underperformance in the reading comprehension assessment.

Chapter 3

Methodology

3.1 Subjects

The group for this study consisted of a total of 112 students aged between nine and ten years, in their fifth year of formal education at a private international junior school in Dubai. The students were of mixed ability with varying standards of proficiency in the English language. A small number of ESL students received intensive specialist lessons in English from an experienced English as an Additional Language (EAL) teacher several times a week. As part of the English curriculum, spellings were taught on a weekly basis and spelling tests were a popular part of the weekly timetable. The ESL students diligently learnt weekly spellings and often scored highly in these spelling tests.

The aim of the study is to investigate patterns of errors made by the Arabic ESL students and attempt to identify possible causes through an item analysis and evaluation of the target words and question sentences to search for underlying factors leading to Arabic ESL students selecting incorrect responses. I was also interested in looking at the reading strategies being used by the Arabic students and also in trying to establish their developmental stage in learning to read as this would have a direct influence on their ability to decode unfamiliar words. The Arabic students had reasonably well developed oral and aural English skills although separate tests to demonstrate this set of skills were not included in this study. However, it would certainly be an interesting area for further development and it would be very helpful to be able to contrast the reading ability skills with the listening and speaking skills of the Arabic students in a comparative study.

For the purposes of this study, the children have been grouped according to their first language (L1) as shown in following table:

Table 1.1: Number of subjects grouped according to their first language

Arabic L1	Non-Arabic ESL	English L1
40	44	28

The Arabic ESL group of 40 children was mostly made up of local Emirati children from Dubai as well as a small number of children from Saudi Arabia, Egypt and Iraq.

The largest group consisted of 44 children with L1 other than Arabic and contained children with L1 in Hindi, Farsi, Russian, Portugese, Korean, Spanish and French. The smallest group of 28 children with English L1 came from backgrounds in the UK, America, Canada and Australia. Most of the children were expatriates and had been pupils at the school for differing lengths of time. Many pupils had only been in the school for one or two years due to the transient nature of life in Dubai and some had come from schools following very different curriculums. All students were encouraged to read widely and the culture of reading within the school was good. A library reading challenge was a successful initiative introduced to encourage children to read books and respond to the book in a number of ways such as designing front covers and writing alternative back cover blurbs. Students were also encouraged to discuss aspects of fiction books including plot, characters, descriptive language and also how to find evidence from the text to answer comprehension questions. However, much of this work was conducted in pairs or groups with lots of teacher support and this helped many of the Arabic ESL learners to develop confidence and oral skills. However, the same students, when faced with the unfamiliar SRS2 multiple choice test of reading comprehension containing sentences with long words that were hard to pronounce, sometimes found it difficult to select the correct response and often chose incorrect responses that on an initial analysis seemed surprising.

3.2 Test procedure

The SRS 2, Level 2 Form B (appendix 1) was administered by the class teachers during normal lesson time in the first lesson of a morning in May 2007 because we wanted the children to be alert. All the classes were given the test at the same time and the procedures were taken from the accompanying SRS 2 Teacher's Guide. The test took 50 minutes to deliver in total as it was necessary to settle the students and demonstrate how to answer the questions by marking the relevant box with a pencil. A total of thirty minutes was allowed for the test.

There were four practice items which most students seemed to understand and the teachers were asked to visually demonstrate on the whiteboard how to mark the answer box. The students were told that the test needed to be conducted in strict silence and that they were not allowed to ask for help of any kind after the practice questions had been explained. The test booklets were marked by the class teachers according to the instructions given in the accompanying Teacher Guides.

3.3 Selection of Target Words

An initial overall analysis of the test results showed that the ESL Arabic students made more errors than the non-Arabic ESL students and the native speaker groups and in order to try to categorise the errors I decided to explore the target words and surrounding sentence words in the questions to look for possible causes and patterns of errors that could be attributed to problems ESL Arabic children may have with: English spellings, differences between use of vowels and consonants in English and Arabic, word shape, vocabulary and background knowledge, problems with word order and syntax, problems with context cues and possible cultural bias in the question items. There were 86 questions in total but the initial results showed that the first twenty questions of the test were relatively simple and did not pose any substantial difficulties for most of the children in the study so I decided to exclude this first set of questions from my analysis of target words. It was found that the most discrepancies in results between the ESL Arabic

students and the other two groups of students occurred from questions 22 through to question 82. The final four questions were too difficult for all groups of students and I also decided to exclude these questions from the analysis.

3.4 Description of Error Categories

The arrangement of the test involved a sentence completion question with a number of possible answer choices given as shown in the following example:

Example 1

21. July comes in the _____ .				
summer	book	sea	cold	water
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Students needed to be able to read and understand the sentence, understand the key content words in the sentence, aspects of grammar within the sentence and then be able to read and discriminate between five possible multiple choice answers to select the correct response. The analysis therefore involved 60 test questions and target words. The first part of the analysis involved grouping the target words according to word types as follows: noun, verb, adjective and adverb. The results showed that the Arabic ESL group made more errors across all the word types (see Table 2.1 in the results chapter) than the other two groups and I wanted to try to look for evidence of possible repeated patterns in the errors for the ESL Arabic students compared to the non-Arabic group. In order to do this I looked at the incorrect responses selected by the Arabic students and attempted to categorise the error as follows:

1. **Lexical** error (L) or unfamiliar word mistaken as a word with a similar spelling or similar word shape. This could also be linked to insufficient vocabulary knowledge.

Example 2

36. A _____ is used to define the meaning of words.
dictaphone dictator dictionary directory diversion
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

In this example, the target word was “dictionary” but 13% of the Arabic ESL students selected the incorrect response “directory”. As both words have a similar word shape and also because both have a similar meaning in that they are reference books this could suggest that the Arabic ESL students were confused by the two words or that they lacked insufficient understanding of the word meanings. So, this error is categorized as a lexical error for the purposes of analysis in this study. However, as stated earlier it is only possible to speculate as to why the students selected this incorrect response and there may well be other possible contributory factors such as the other content words in the sentence especially the word “define” which probably confused many ESL students.

2. **Contextual** error (C) where the student is relying on the surrounding sentence context or simply guessing the answer because they do not fully understand the sentence but latch onto a familiar word in the sentence as a device for choosing a word placed in the test as a distraction. In the following example where the target word is “petrol”, several ESL Arabic children selected the incorrect response b] steel and e] wheels, possibly because of the important content word “cars” in the question sentence. The word “car” is a high frequency word that most ESL Arabic children are familiar with and would be easily recognised as a sight word. It was also interesting to note that the male Arabic students selected the word “steel” and the female Arabic students selected the response “wheels” although there were not enough answers of this kind to come to any definite conclusions.

Example 3

29. _____ may be used in some cars as a fuel.				
petrol	steel	antifreeze	lubricant	wheels
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. **Morphological** errors (M) including failure to recognise or understand inflectional endings of words or suffixes as well as a lack of understanding of derivational morphemes, free morphemes and bound roots in English. Birch (2002) describes the English language as having a very complex morphological structure made up of many different kinds of morphemes including inflectional morphemes such as the past tense verb ending –ed or the suffix –est in comparative adjectives. Many ESL Arabic children struggle with word endings and tend to look at the root of the word which usually falls in the middle of the word. I was interested to see how many incorrect responses fell into this category. I further split this category into two groups accordingly: Errors linked to suffixes (MS) and errors linked to prefixes (MP).

Example 4

45.	Target word	Error
	SPECTACULAR	SPECTACLE

This error could be linked to spelling difficulties and also to a problem with pronouncing certain combinations of letters and understanding the function of suffixes. In another question where the target word was the adjective “experimental” many ESL Arabic children made an incorrect response and chose the incorrect response “liquid” presumably because the suffix –al caused confusion. Although it is possible that “liquid” had become a sight word and was therefore easier to recognize, pronounce and understand.

Example 5

40. Science is a subject which involves _____ work.				
solution	acid	exotic	liquid	experimental
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

However, it is also possible that the students lacked sufficient understanding of the experimental nature of science as a subject due to the “text book style” of teaching science and also due to the lack of practical experiments in the classroom. This could be termed a lack of “world knowledge” that in part has been caused by inadequate teaching methods.

4. **Spelling** errors (S) categorized according to whether the student had problems with identifying vowels (SV) or problems with consonants (SC). In the following example the target word “could” was not selected possibly because of difficulties with the middle grapheme /ou/ which is not one of the usual spellings for the /oo/ sound and is a difficult word to pronounce for the Arabic students.

Example 6

22. She _____ help him to read.				
got	jump	could	make	shake
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In this example, 13% of the Arabic ESL group selected the incorrect response of “got” possibly because this was a high frequency word that they could understand and were familiar with and possibly represented a more plausible answer than the other choices. It is only possible to make suggestions as to why this incorrect answer was chosen but maybe the Arabic students were concentrating on the salient content words “.him to read.” and formed an acceptable sentence: *She got him to read.* They were not paying attention to the word ‘help’ or were simply unable to recognise the past tense “could” as I

have noticed that many Arabic and non-Arabic ESL students have difficulties with the past tense form of many irregular verbs. For the purpose of analysis, this error is categorized as a spelling error (SV) due to spelling constraints with vowels, in this case, the grapheme /ou/ in the middle position of the target word. Other possible causes could be linked to problems with word order, syntax and grammar. In many cases the errors fall into more than one category and in order to make any meaningful conclusions, a lot more statistical analysis will need to be undertaken in a further study.

5. **Cultural (C)** including errors linked to a general lack of “World Knowledge” that could cause ESL Arabic students to misunderstand key content words in the question sentence. In the following example of this type of error the target word was “relaxing” but 20% of the Arabic ESL students selected the incorrect response “successful”.

Example 7

34. Many people find that watching fish is very _____ .				
artful	angling	swimming	successful	relaxing
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The confusion with this question could be linked to perceptions of the activity of watching fish as a relaxing hobby, as is often the case in the UK whereas in the Gulf, watching fish could be linked to the commercial activity of fishing as a craft or way of life and may not be viewed as relaxing. However, it is also possible that the context of the question and the phrasing of the sentence, especially the word “find” was too sophisticated in terms of the sentence structure for the Arabic ESL students to fully understand the meaning of the question. This particular question illustrates the difficulties in terms of error analysis in the sense that the incorrect responses could be caused by any number of factors and it proved to be quite difficult to sort the errors made by the Arabic ESL group into one of the categories described above. This problem will be discussed in more detail in the following chapter.

Chapter 4

Results and Analysis

In this chapter the results obtained from the investigation will be presented and analysed according to the categories outlined in the previous chapter (lexical, contextual, morphological, spelling & cultural/world knowledge) in order to search for possible patterns of errors recorded by the Arabic ESL group compared to the non-Arabic ESL group and the native speaker groups of children. An attempt will be made to try to establish possible reasons for the Arabic ESL students making incorrect responses in the SRS2 test in order to validate the hypothesis that this test is an unreliable method of measuring reading comprehension ability of Arabic ESL students because they do not possess the skills, strategies and background knowledge to perform well in written comprehension tests of this type. This study will also attempt to evaluate the extent to which the SRS2 relies on the learner's vocabulary knowledge and cultural knowledge or 'schema' as opposed to the bottom-up-skills of word recognition and phonological processing.

The 60 target words and the % errors for each are given in Table1:1. The initial analysis of the results indicated that the Arabic ESL group of subjects made significantly more incorrect responses than both the non-Arabic ESL and native speaker groups across all the different target word types (noun, verb, adjective or adverb). The 60 target words in the test consisted of 28 nouns, 13 verbs, 17 adjectives and 3 adverbs (see appendix 3 for full list of target words). Further analysis indicated that the Arabic ESL group found target words in the past tense form of the verb and adverb category slightly more challenging than the nouns and adjective category. The following table shows a summary of the number of incorrect responses made for each of the 60 questions by each subject group.

Table 1: Total number of incorrect responses recorded in the SRS2 test of reading comprehension for the three subject groups in the study.

Total number of subjects = 112, Arabic L1 (AL) = 40, non-Arabic ESL = 44 (NA), English L1 = 28 (NS).

Question.	Target	Word type	AL	NA	NS
22.	could	verb	5	0	0
23.	fallen	verb	4	0	0
24.	built	verb	5	0	0
25.	quickly	adverb	8	0	0
26.	thirsty	adjective	4	0	0
27.	shirts	noun	6	0	0
28.	bird	noun	2	0	0
29.	petrol	noun	2	0	0
30.	measured	verb	2	0	0
31.	pottery	noun	10	4	2
32.	kneeled	verb	4	4	2
33.	attackers	noun	0	0	0
34.	relaxing	verb	8	6	3
35.	redesigned	verb	25	18	4
36.	dictionary	noun	5	2	0
37.	winter	noun	8	2	0
38.	prisoner	noun	3	4	0
39.	mechanic	noun	11	9	4
40.	experimental	adjective	7	6	2
41.	proved	verb	7	2	0
42.	fraction	noun	5	4	0
43.	generously	adverb	16	9	2
44.	marathon	noun	15	7	3

45.	spectacular	adjective	21	9	4
46.	transparent	adjective	7	3	2
47.	archaeologists	noun	4	4	2
48.	temporary	adjective	18	11	4
49.	applaud	verb	22	12	6
50.	reinflate	verb	26	13	2
51.	reservoir	noun	26	29	10
52.	uninspired	adjective	19	9	6
53.	wary	adjective	32	25	10
54.	irresponsible	adjective	15	12	2
55.	ravenously	adverb	33	22	9
56.	erosion	noun	35	22	21
57.	coincidence	noun	27	14	4
58.	accede	noun	28	18	5
59.	bawling	verb	29	20	8
60.	variety	noun	22	22	2
61.	architect	noun	20	18	7
62.	artificial	adjective	18	14	5
63.	prohibited	verb	28	16	4
64.	hazardous	adjective	25	22	11
65.	inaudible	adjective	30	20	5
66.	surveillance	noun	23	20	3
67.	tribunal	noun	26	18	7
68.	arson	noun	33	30	13
69.	plague	noun	25	23	6
70.	ludicrous	adjective	27	23	9
71.	eerie	adjective	31	27	6
72.	kneaded	verb	30	24	11
73.	inexplicable	adjective	30	28	8
74.	marathon	noun	32	27	8

75.	efficiency	noun	21	30	10
76.	infallible	adjective	23	25	10
77.	emblematic	adjective	30	17	9
78.	ballot	noun	30	27	8
79.	collaboration	noun	30	25	11
80.	endowed	adjective	25	24	13
81.	emphasis	noun	30	26	11

The mean and standard deviation of the above data for each of the three subject groups is shown in the table below:

Table 2: mean and standard deviation for the Arabic L1 group (AL), the Non-Arabic ESL group (NA) and the English L1 group (NS).

Total number of data points for each group is 60.

Subject Group	Mean	Standard Deviation
AL	18.21	10.89
NA	13.41	10.11
NS	4.90	4.50

The results shown above indicate that the Arabic ESL group made more incorrect responses than the other two groups of students for target words from all word types as summarised in the following table:

Table 3: Comparison of percentages of errors made by each subject group according to the word type for each of the target words.

Subject Group	nouns	verbs	adjectives	adverbs
ESL Arabic	51	52	52	61
ESL non-Arabic	37	31	37	35
English L1	21	14	24	20

The results seem to indicate that the Arabic ESL group had more problems identifying target words in all word types but particularly adverbs, possibly due to difficulties in understanding the importance of the use of suffixes. I decided to focus the analysis more closely on 36 questions and target words from questions 22-57 as these questions represented the middle range in terms of reading comprehension difficulty including the content words used in the questions and the target words. The questions towards the end of the test paper contained more challenging vocabulary and unfamiliar target words that many children from in all the subject groups found difficult to understand and were therefore not included in this part of the analysis. Also, due to the large amount of data and time constraints I decided to narrow down the error analysis and focus on this group of questions initially, in order to look for possible patterns and identify error types in more detail. The incorrect responses made by the Arabic ESL students have been coded as follows: lexical (L), contextual (C), spelling linked to problems with vowels (SV), spelling linked to problems with consonants (SC), morphological errors linked to lack of understanding of the importance of suffixes in the English language (MS) or prefixes (MP) and finally errors linked to lack of cultural awareness or lack of world knowledge (CW).

The following table shows the break down of a total of 471 incorrect responses made by the Arabic ESL group and grouped according to the following categories: lexical (L), Morphological Suffix (MS), Morphological Prefix (MP), Spelling Vowel (SV), Spelling Consonant (SC), Contextual (C) and Cultural/World Knowledge (CW).

Table 3: Number of incorrect responses made by Arabic ESL group according to the error categories described above and also shown as a percentage. N=471

Category	L	MS	MP	SV	SC	C	CW
Number of errors	179	75	118	47	19	24	9
Percentage	38%	16%	25%	10%	4%	5%	2%

The SRS2 is a lexical multiple choice test of reading ability and requires students to be able to choose the correct target word from 5 possible answers and it is difficult to know which strategies are being used by the Arabic ESL group. The language processing strategies could include any or all of the following: letter identification, word identification and word meaning. Other cognitive strategies include: syntactic processing, lexical processing, orthographic processing and phonological processing.

The results indicate that the Arabic ESL students did not possess sufficient lexical knowledge or vocabulary knowledge and that this hindered their ability to choose correct responses. According to Ehri's (1994) classification of ways to read unfamiliar words in print, mistaken lexical access occurs when a new word is misread as a sight word having the same visual cues. It is possible that the Arabic ESL students in this study are using a logographic or visual meaning-based strategy to understand unfamiliar or new English words. For example, in the following question, the target word "pottery" was not chosen by 25% of the Arabic ESL group and instead the incorrect response "pancake" was selected.

Example 8

31. _____ is made from clay and fired in a kiln.				
poster	porter	pottery	pancake	postage
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

It is possible that the ESL Arabic students did not understand the meaning of the two important content words in the question sentence: “clay” and “kiln” and instead they relied on scanning the sentence for words that were more familiar to them such as “made” and “fired”. This may have led them to select “pancake” due to the fact that cakes need to be baked and they associated the content word “fired” with “pancake” as they are more likely to recognise “pancake” as a familiar word. The Arabic ESL students may have been using what Ehri (1994) describes as “visual cue reading” when the reader connects salient visual cues to meanings. In this example the cues could be the words “fired” and “pancake”. The Arabic ESL students were not using bottom-up processing strategies involving individual letters or sounds and were therefore constrained by the context of the sentence and possibly insufficient vocabulary knowledge.

In another example the Arabic ESL students appear to be relying on context rather than reading the individual letters in the words as illustrated in the following question:

Example 9

23. Half the money had _____ on the floor.				
carpet	purse	pound	spend	fallen
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The target word “fallen” was replaced by the incorrect response “carpet” by 10 percent of the Arabic ESL students possibly due to problems with understanding the target word “fallen” and the past participle - en for the past tense of the verb “fall”. The -en past

participle is an allomorph for the irregular verb ending and is an inflectional morpheme in English. Other inflectional morphemes include the -ed regular past tense verb ending and -s third person singular present tense verb ending. These inflectional morphemes change the meaning of words and many Arabic ESL readers seem to have problems understanding the different forms of the same words that are connected to the use of suffixes and prefixes or bound morphemes such as the prefix -un which cannot exist by itself but must be attached to another morpheme for example “untie”. Derivational morphemes or prefixes and suffixes can create a new word from an existing word and are placed within the context of a word and can make “unpredictable changes to the meaning of a word” (Birch, 2002). For example the noun “care” can be changed into the adjective “careless” by adding the suffix -less. It has been suggested by Ehri (1998) and others that ESL learners may not be using a phonological strategy when trying to read unknown words in English because they prefer to use the meaning-based strategy of trying to associate a visual image with meaning. For example in the above example the incorrect response “carpet” might have been selected by the Arabic ESL students because they recognized the word as a familiar sight word and also because when they scanned the sentence the word “floor” is also a word they would recognise as a sight word and the obvious relationship between “floor” and “carpet” could be a possible explanation for this particular error. Ehri (1998) gives a similar example of a child reading the word “CREST” as “brush teeth”. In this example the child is relying on visual cues and is not actually using the alphabet or phonics to sound out individual letters. This has been termed the pre-alphabetic phase of learning to read by Ehri (1998) and Frith() calls it the “logographic phase”.

However, is also possible that the students concentrated on the important content word “floor” with which they would have been familiar and therefore made the association with the incorrect response “carpet” as again this is a familiar word. They do not appear to have paid attention to the key word “had” and were looking at words at the end of the sentence which may be linked to the left-to right direction of Arabic writing.

The next example demonstrates another problem with the past tense form of the verb as follows:

Example 10

24. Houses are _____ with materials like brick, wood and stone.				
blunt	brought	played	bolt	built
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The target word “built” was confused with “brought” and could be attributed to spelling difficulties with the vowel phonemes UI and OU in the middle position of the word.

It is possible that the Arabic students did not recognise the target word as the past tense of the verb “build” or misread ‘brought’ for “built” as the words have a similar shape. This could indicate that the Arabic students were using a partial alphabetic strategy when reading unfamiliar words and were concentrating on the first and final letters of the word. This stage of learning to read has been described by Ehri (1998) as the second stage in the process of learning to read new and unfamiliar words when readers only use partial grapheme-to-phoneme correspondences to “guess” English words. The phonemes /UI/ and /OU/ are confusing for Arabic learners, as there are alternative spellings for these phonemes and they are quite difficult to learn. (see Appendix 4 for full list of alternative spellings for each phoneme). English spelling is phonemic and a “phone” is a sound produced in speech and is not represented in English writing. However, phonemes are represented in written form. When the Arabic students are reading in silence, such as when completing the reading test in this study, they will need to have an “accurate mental image of the phonemes of English” according to Birch (2002) and it is possible that the students in this study did not have this skill. Another relevant factor might be linked to the fact that in the Arabic language short vowels are not very important as only long vowels and the consonants are emphasised because they provide the meaning (Smith, 1997). In the Arabic language there are only two diphthongs : /aw/ and /ay/ whereas in the English language there are far more such as /ou/ as in “out” /oi/ in “coin” and many others.

The next examples highlight the possible problems that Arabic learners have with consonant digraphs and words starting or ending with “th”, “sh”, or “ch”.

Example 11

26. When you are _____ you want a drink.				
thirsty	thrifty	thirty	thin	hungry
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In this question 10 percent of the Arabic students did not select the target word “thirsty” and instead selected the incorrect response “thrifty”. This could indicate that the students misread the target word and were therefore relying on Ehri’s (1998) partial alphabetic strategy of only concentrating on the salient letters of the word at the beginning and end or that they reversed the middle letters –IR in “thirsty” and read –RI in “thrifty”. This could be due to the Arabic readers not paying attention to the –/i/ vowel in the middle of the word or the error could be linked to problems with pronouncing the “th” sound which I have noticed can also cause problems for native speakers who sometimes pronounce “th” as “f” especially when the “th” occurs in the middle of the word such as in the name Agatha. When my own children were young, they attended a primary school called St Agatha’s but they tended to pronounce it as Agafa, much to the annoyance of their teachers.

In the next example the Arabic students had a problem with the consonant digraph “sh” as illustrated in the following question:

Example 12

27. Footballers often wear striped _____.				
fields	shines	shirts	ships	shoots
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In this example a surprising 14 percent of the Arabic students selected the incorrect response “fields” instead of the target word “shirts” and this tends to indicate that they are using meaning based strategies and associations with key words in the sentence such as the word “footballers” and linking that to the incorrect response “field” without paying attention to the rest of the sentence. They do not appear to be using phonological strategies and prefer to rely on whole word sight recognition. This could be due to possible problems the Arabic students have with reading or recognising the “sh” consonant digraph as they selected the only word that did not begin with these letters. Another possibility is that they had problems understanding other important words in the sentence such as “wear” and “striped”. However, it is only possible to make assumptions at this stage and further investigation would be needed to draw any firm conclusions.

In the next example, the Arabic students appeared to have difficulty with visual letter confusion of the initial consonant where words are phonograms or from the same word family as follows:

Target word	Incorrect Response
fraction	traction

In the above example the two words “fraction” and “traction” share the same rime – action. The rime is the vowel and the final consonants of a word and the onset is the first consonant or consonant sequence. In this example the Arabic students may not have been paying attention to the initial letters or may have had a problem with the phoneme /f/ which has the alternative spelling /ph/. According to Birch (2002) and other, the process of subvocalising or saying the word or sound in the head is an important way for learners to learn new words. Some consonant sounds such as /p/, /t/, and /k/ are described as “voiceless” because vibration does not occur when the sound is produced whereas other sounds are described as “voiced” because a vibration does occur, as in the sounds: /b/, /d /, and /g/. It is possible that the Arabic learners may have had difficulty in the silent reading test of discriminating between these two initial letter sounds. Abu Rabia (2003)

found in his research that “poor readers in Arabic rely on visual-orthographic processing in Arabic rather than phonological routes.” It is therefore possible that the ESL Arabic readers in this study were transferring this whole word recognition process when trying to read unfamiliar words in English.

Chapter 5

Conclusion

5.1 Discussion

The purpose of this study is to try to identify factors that could lead to poor performance by Arabic ESL students in the Suffolk Reading Scale reading comprehension test. It was hypothesized that the Suffolk Reading Scale, a multiple-choice type reading comprehension test is possibly unsuitable as a method of assessing the reading ability of Arabic ESL students due to the difficulties experienced by Arabic readers in decoding text, linked to problems with word recognition and spelling patterns, unfamiliar vocabulary and wider issues connected to the cultural content of some of the test questions and target vocabulary. The results indicate that the Arabic ESL students made significantly more errors across all the target word types than the non-Arabic ESL and native speaker groups. The highest proportion of incorrect responses can be attributed to problems linked to insufficient lexical knowledge and problems associated with English morphology, particularly how prefixes and suffixes can alter word meanings.

Ulrika wolff () in her research stresses the importance of “meta-cognitive strategies” and “cultural competence” as important skills needed by ESL readers. She also observed the tendency for ESL readers to “confuse low-frequency and phonological –like words”.

The evidence from this study seems to support the findings of other research (Sadwani 2006) that Arab learners prefer to rely on visual recognition of whole words as it is easier for them and does not require the application of letter –sound correspondences which they find very difficult due in part to the inconsistencies of the rules of English spelling and the morphophonemic nature of the English writing system. The Arabic students coped better with target words and content words in the sentences that were easy to decode because they could be described as “transparent” such as the target word

“attackers” in question 33 in which all the Arabic students selected the correct response, whereas the more “opaque” target word “applaud” in question 33 is not easy to sound out due to the vowel phoneme /au/ which has a number of alternative spellings including: /aw/, /or/, /our/ and /al/. This can understandably cause confusion for the Arabic students. Another interesting observation relates to the context within which an unfamiliar word may be found. For example the target word “transparent” in question 46 had been previously taught to the students as part of the Science curriculum, yet 18 % of the Arabic ESL students did not appear to recognise this word in the test and they made incorrect responses. This implies that these students had difficulty decoding the content words in the sentence. In this question the word “substance” probably caused confusion, or possibly the meaning of “transparent” had not been stored in the long-term memory.

The results of this study seem to indicate that the Arabic ESL students are relying too much on visual meaning based strategies which correspond to Ehri’s (1998) pre-alphabetic first phase in learning to read unfamiliar words or possibly the second partial alphabetic phase where the reader is only partly looking at individual letters that appear in the salient position at the beginning and ending of words. The Arabic students do not appear to be using a phonological assembly route due to insufficient phonics teaching and this means that they are forced to rely on whole word recognition strategies. This will obviously cause problems for the Arabic students when they are faced with quite a difficult new word contained within a sentence composed of other unfamiliar vocabulary, as they do not possess sufficient lexical knowledge or reading strategies to place the target words in context. This leaves the Arabic ESL students at a considerable disadvantage in the multiple-choice type lexical test of reading comprehension ability such as the Suffolk Reading Scale discussed in this study. The results also seem to imply that the Arabic ESL students do not possess adequate reading strategies and phonic skills to be able to score highly in this kind of reading comprehension test as was hypothesized at the outset of this study due to a lack of phonemic awareness and understanding of the morphology of the English language. Also, due to the lack of a culture of reading amongst this group of students and within the wider Arabic community in the region, the students in this study lack the higher order reading comprehension skills, such as

inferencing and deduction as well as sufficient vocabulary knowledge which severely hinders their ability to understand many of the test questions. The findings of this study seem to support the results of other recent research studies on reading comprehension such as Fender's (2008) study on spelling knowledge and reading development for Arab ESL learners. This study found that "Arab ESL learners were relying on extra-lexical content information to help them identify English words in a way that parallels L1 Arabic word recognition skills." This study also found that "Arab ESL learners experience more difficulty than other ESL populations in processing English word forms." Fender goes on to stress that in his study, one of the limitations involved the lack of a "direct measure of vocabulary knowledge, which is a crucial factor in determining reading comprehension." Fender's study examined the relationship between spelling knowledge and reading skills. Both reading and listening tests were used with two contrasting groups of students, an ESL Arabic group and another non-Arabic ESL group. Whilst this study was concentrating on the importance of spelling knowledge, there were some interesting similarities in some of the findings with my own small study, especially concerning the importance of vocabulary knowledge and the way in which ESL Arabic students rely on context when faced with an unknown word. In another earlier study, Abu-Rabia (2002) found that Arab ESL learners transfer some of the reading strategies from the Arabic language when trying to read in English and "rely on partial spelling information and extra lexical sentence context information to identify words during reading."

5.2 Implications

The pedagogical implications resulting from the preliminary results of this study are that Arabic students need to be taught English phonics from an early age in order to develop phonemic awareness. English spelling is phonemic but the difficulty for the Arabic students is that the "phones" are not written down and need to be remembered in the head. This will be very difficult if the Arabic students have not been given instruction in phonic sounds. A grapheme is an abstract mental symbol of writing which corresponds to a phoneme in spoken language (Cook) for example, single graphemes include: t,d,f,s,a,o

and double graphemes or digraphs include: ch, sh, ph, th etc. It has been suggested that many ESL learners do not make the associations between the “graph” or mark on the page and the “grapheme” which is stored in the memory fast enough, and that this could cause problems with word identification and decoding unfamiliar words.

Due to the morphology of English and the inconsistencies of English spelling rules, the implications for those teaching Arabic children to learn to read in English stress the importance of explaining how the use of suffixes and prefixes can change the meaning of a word including the pronunciation changes to the vowels. In this study the Arabic students appeared to have difficulty with adverbs ending in -ly and to how these words are used in a sentence. For example in question 25, the target word “quickly” was replaced by the incorrect response “quick” by 21 percent of the Arabic students presumably because they were unfamiliar with the significance of the suffix -ly. The Arabic students in this study also found the past tense form of the verb quite challenging such as the target word “fallen” in question 23 and “built” in question 24.

One of the main limitations of this study is the difficulty involved in establishing the causes for the Arabic ESL students selecting incorrect responses and in placing any particular incorrect response within a certain category of error according to the categories described in the Methodology section. This is partly because many of the incorrect responses fell into more than one category and it also proved to be difficult to be certain of the exact reasons why students made the incorrect response. A possible solution to this problem would have been to conduct a parallel test where the students could read the test questions out loud and also give reasons for their choice of answer. This could be the basis of a further study as I would be interested to observe the reading strategies being employed by all three subject groups, and in this way attempt to pinpoint the difficulties experienced by the Arabic ESL students in this type of reading comprehension test.

The importance of establishing a culture of reading from an early age is clearly a very important consideration for all educators within the region, as the lack of vocabulary and reading strategies is placing Arabic ESL students in both the primary and secondary

school sectors at risk of not developing sufficient proficiency in the ability to decode words and understand how to obtain meaning from text. Unless reading skills are embedded at an early age, coupled with an intensive phonics teaching programme, many Arabic ESI learners will be very disadvantaged at later stages in their education either at college or university level as well as later on when they enter the employment market. Teachers need to be aware of the difficulties experienced by the Arabic ESL students when trying to learn to read in English and they must avoid exposing their students to unsuitable and stressful reading comprehension tests which are not a reliable method of either assessing reading skills, or more importantly, of motivating their students to develop a passion for reading and a true understanding of the nature of the English language.

Appendices

1. Appendix 1 Copy of the Suffolk Reading Scale Form 2B
2. Appendix 2 Copy of the Target words for Form 2B

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Appendix 2
Suffolk Reading Scale Form 2 B Target Words

References