

Overcoming reading-related learning difficulties using ICT: A Special Focus on Reading Arabic Texts

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Abstract— *The main concern of the present paper is to give a general overview of the different learning impediments that affect the development of reading and the way these can hinder the learning process of young learners. It puts a special focus on reading difficulties, as these are liable to constitute a major obstacle preventing pupils from making the most of their learning experience. The aim is to shed light on the various studies done on learning difficulties (henceforth LDs) in the Arab world, with a special reference to Arabic in order to see how ICT can be implemented to help young learners develop more efficiently their reading skills. Although Researchers in the field of language teaching and learning have always concerned themselves with finding answers to issues related to students' learning strategies and styles, they, however, have not given learning difficulties the attention they deserve, especially in countries such as Morocco, even if these are commonplace among pupils. They are often not given due importance and the students affected by them are generally dismissed as being "slow learners" who do not concentrate in class and/or "slothful and careless students" who hold negative attitudes towards the language. Moreover, even if teachers take heed of these problems, they rarely, if ever, have ready access to consultation, guidance or referral advice to deal with such cases. In fact, it would be wrong-headed to think that the responsibility of spotting such problems falls entirely on their shoulder; Society as whole is not familiar in the least with them.*

The importance of reviewing the literature on this particular subject lies in highlighting the different aspects, which have been investigated in this area, and looking for new ways to tackle learning difficulties, especially those related to reading Arabic texts. The paper will therefore start by providing some definitions of reading, its sub-skills and its models. It will then talk about the different types of learning disabilities and difficulties that learners generally suffer from. It will then discuss some special characteristics of Arabic in an attempt to explain the problems most learners face when learning it and the way these can constitute a hindrance preventing some of them from reaching their full potential. In addition, it will talk about studies that looked at the use of ICT to help learners especially with their reading skills. All this is done with a view to find new ways in which ICT can be harnessed to offer new and efficient solutions to help young learners overcome learning difficulties especially those relating to reading the Arabic language.

Keywords— *Learning disabilities and difficulties, types of learning disabilities, LDs in the Arab World, ICT to cater for students with SLDs, Arabic Specificities.*

I. INTRODUCTION

It is generally taken for granted that students with special needs are more likely to encounter reading difficulties while reading Arabic. This idea stems from the widespread belief that Arabic is a highly complex language, which requires a bigger mental effort compared to other languages such as French or English. In other words, it is considered one of those languages which are more likely to create learning difficulties for learners due to its complex orthographic, phonological and lexical systems. In fact, one word might have up to five different meanings. For instance, the word "to write" in Arabic: [kataba] – كتب , is composed of three Arabic letters 'ك ت ب' and has six different meanings. This very unique specificity makes Arabic a homographic language that is difficult to grasp quickly. Because of this, teachers have to provide their pupils with the necessary support to help for them overcome these difficulties. One of the alternative practices that teachers can use is the multisensory approach in which both lessons and instructions are presented in more than one sensory channel (visual, verbal...) and the use of ICT tools to enhance their learning experiences and promote their confidence and self-esteem. In this respect, the main concern of the present paper is to give a general overview of the different learning disabilities (Henceforth LDs) that affect reading and the way these can hinder the learning process of young learners. It will put a special focus on reading difficulties as these are liable to constitute a major obstacle preventing pupils from making the most of their learning experience. The main aim is to shed light on the various studies done on LDs with a special reference to Arabic texts. This overview seeks to bring to the fore

different studies done on reading difficulties and disabilities in the Arab world, in a bid to pave the way for further research in this area.

II. WHAT'S READING

Listening, speaking, reading and writing are regarded as the four fundamental skills to acquire/learn any language. Reading which is the first receptive skill besides writing was shown to have Many researches had proven that it has positive effects on vocabulary knowledge, spelling as well as the learners' writings by a number of studies (Babaiba, 2014). Reading comprehension is a complex process involving many subcomponent skills and abilities that vary between readers (Snow & Sweet, 2003). It is an interactive process between the reader and the writer in which the former has to understand the message of the passage and then to decode it. It is, by this, considered to be a dynamic process in which the text information and the reader's prior knowledge interact to help the latter construct meaning before, during and after reading. In this respect, Goodman (1973) states that the learner:

interacts with a message encoded by the writer. He concentrates his total prior experience and concepts he has attained, as well as the language competence he has achieved. (p. 162)

Similarly, Dubin (1982) contends that reading is a complex skill that contains a number of psychological, physical and social elements. In fact, it is considered by many as the most difficult language skill, which involves the interaction of multiple cognitive, meta-cognitive, linguistic and sociolinguistic aspects. i.e., some other sub-skills operate in synergy all together in order to perform the task. Reading is not a passive task, but rather an active one. It is a process which requires both the learner's mental and experimental input which are expected to help him/her comprehend the written message. In highlighting the importance of reading comprehension, Rivers states that:

"reading is the most important activity in any language class, not only as a source of information and a pleasurable activity, but also as a means of consolidating and extending one's knowledge of the language" (Rivers, 1981)

Reading is composed of two parts; the written form, and the meaning of the conveyed message. In this respect, Penny (1996) defines reading as follows:

Reading means 'reading and understanding.' A foreign language learner who says: 'I read the words but I don't know what they mean' is not, therefore, reading in this sense. He or she is merely decoding translating written symbols into corresponding sounds." (1996, p. 138)

III. TYPES OF READING

There are in fact two main types of readings namely; intensive and extensive reading. According to Hafiz and Tudor (1989), learners, in intensive reading activities, are primarily exposed to relatively short texts which are used either to exemplify specific aspects of the lexical, syntactic or discoursal system of the second language (Henceforth, L2), or to provide the basis for targeted reading strategy practice; The goal of extensive reading, on the other hand, is to 'flood' learners with large quantities of L2 input with few or possibly no specific tasks to perform on this material. (Hafiz and Tudor, 1989, p. 5)

A. Intensive Reading

Intensive reading refers to detailed focus on the reading texts which usually take place in classrooms. It tends to develop the strategies of the learners. (Babaiba, 2014). In this respect, Nuttal (1962) claims that:

"The intensive reading lesson is intended primarily to train students in reading strategies. However, sometimes the learner may prefer to read the text in which he/she divides it into parts and then to read each part alone in order to comprehend it very well." (p. 23)

In Palmer's view (1964) on intensive reading, the learner focuses on using the dictionary in which he has to analyze, compare and translate while reading texts. (Palmer, 1964). Therefore, the use of a dictionary helps learners progress in their language learning process. However, this may interrupt the learner's reading speed. In the same line of thought, the reading comprehension task for Harmer means not to stop for every word neither to analyze everything (Harmer, 2001), that is to say, the reader should not stop at every single point or analyze each idea alone, but rather he should make a general comprehension of the text and extract the meaning by taking the content into account. (as cited in Babaiba, 2014).

B. Extensive Reading

The second reading type is extensive reading. It refers to the reading we often do outside schools. For instance, reading short stories, magazines, and newspaper articles... In this respect, Hafiz and Tudor (1989) mentioned that:

The pedagogical value attributed to extensive reading is based on the assumption that exposing learners to large quantities of meaningful and interesting L2 material will, in the long run, produce a beneficial effect on the learners' command of the L2 (p. 5).

In fact, this type of reading was referred to by Richard Day (1998) as "Joyful Reading" because extensive readers read

mainly for the sake of pleasure. Through extensive reading, the reader enriches his background knowledge, and expands his vocabulary; he also recognizes the spelling forms. Therefore, the learner chooses his/her own books and reads at his/her pace. Then, the teacher has to guide learners to select books depending on their levels. According to Day and Bamford (1998), extensive reading is a part of second language curriculum i.e. as a separate course, as a part of an existing reading course, as a non – credit addition to existing course, and as an extra-curricular activity (Day & Bamford, 1989).

IV. SUBSKILLS OF READING

Despite the substantial body of research on learning strategies and their effectiveness in the learning process, scholars hold different views concerning what reading strategies are. To start with, Oxford (1990) gives a definition to the concept of reading strategies as actions that make the learning task easier, enjoyable, effective and self-directed. The term strategy refers to learning techniques that help learners solve the problems they face whenever they read. In the same respect, Anderson (1991) defines reading strategies as a set of cognitive steps which readers can take into account in order to acquire, store and retrieve data. For Garner, (1987) reading strategies are “*generally deliberate, playful activities undertaken by active learners, many times to remedy perceived cognitive failure*” (p.95). Similarly, Barnett (2002) has used the term reading strategy to refer to “*the cognitive operations that take place when readers approach a text with the purpose to make sense of what they read. In this sense, reading strategies are as the comprehension processes that readers use in order to make sense of what they read*” (p.14).

Thus, reading strategies are effective techniques that are used by English as a foreign language (Henceforth, EFL) learners to achieve a good reading comprehension. For this reason, we should admit the role of EFL teachers who must be aware of the reading strategies and should teach learners how to successfully use different strategies; namely, skimming, scanning, careful-reading and predicting, considered to be sub-skills of reading. In this sense, Phan states that:

“The strategies may involve skimming, scanning, guessing, recognizing cognates and word families, reading for meaning, predicting, activating general knowledge, making inferences, and separating main ideas from supporting ideas” (Phan, 2006).

A. Scanning

Scanning is used when looking for a specific piece of information in a given text. When a student scans, he/she

looks over the selection quickly to locate the particular piece of information he needs and reads only that information, but carefully. Once he finds this information, he stops reading (as cited in Babaiba, 2014). For instance, the reading passage could be a selection on a test with reading comprehension questions, but it may also simply be reading a schedule to see when a particular movie is playing or checking a weather map in a newspaper. Scanning is a fast form of reading that does not pay attention to every detail given in the text. Before students can scan for the answer to their questions, they should think about the form the answers will take. Will they be a time? Will they be a location? Knowing this beforehand will assist students in locating the information quickly (BusyTeacher, 2012). It is a speed-reading technique and a useful reading activity in which learners need specific information without dealing with the whole text. This means, they do not read all the text word by word, but rather they extract specific information (names, dates, statistics) without reading all the passage. Thus, when scanning, learners try to locate particular information by moving their eyes over the text rapidly, and then get the required information to complete a certain task. While scanning a given text, readers are more concerned with the detail than the broader meaning of the text (Sutz & Weverka, 2009). It is, therefore, different from skimming as it consists of looking for specific information within a text such as dates, names, and places, among others. Moreover, Brown (2003) explains that scanning is the process of quickly searching for particular piece or pieces of information in a text in order to extract specific information without reading the whole text. It is, essentially, fast reading (Mikulecky & Jeffries, 2007). To do so, it involves moving your eyes quickly down the page seeking specific words or phrases (Sutz & Weverka, 2009). Scanning is important to improve reading skill. The procedures of scanning technique are, according to (Olson & Ames, 1972; Thamrin, 2014), (1) keep in mind only the particular information to be found out, (2) Make a choice, which clues would support the finding of the required information.

B. Skimming

Skimming, like scanning, is a quick type of reading. Unlike scanning, though, the goal of skimming is to learn the main points in a larger selection of writing rather than answer one specific question. When you skim milk, you take the richest part off the top. Likewise, when your students skim a reading passage, they should be pulling all the most essential information out of a piece. The most

straightforward way to skim a given passage is to read the entire first paragraph, the entire last paragraph and read the first sentence of each additional paragraph in between. In so doing, your students should be able to identify the major themes throughout the passage (BusyTeacher, 2012). While skimming, students should also pay attention to italicized or bold words, headings and subheadings. After skimming a passage, students can then decide whether to go back and read the entire selection or to scan for particular information. It can be a difficult activity for ESL students as they often get bogged down by new vocabulary and confusing grammar. It is a method of rapidly moving the eyes over text with the purpose of getting only the main ideas and a general overview of the content. In other words, skimming is to read more in less time and to help the learner to cover a vast amount of material very quickly. In sum, when skimming, learners go through the text quickly in order to get the gist of it and have an idea of the writer's intention. It is used by readers to get "*a general idea about the content of printed materials through reading the text quickly i.e. in this strategy, readers will look for something quite specific or get general ideas before putting effort into close reading*" (Grellet, 1999, p. 25). For instance, if one does not want to read the whole texts or articles; s/he may use various techniques to skim by making use of the following steps: (1) Use of quick glance through the pages (2) Notice the titles and headings and subheadings (3) Read the opening sentence and the conclusion carefully (4) Read the first and the last sentence of each paragraph in order to gain the main idea of the main points (As Dinah Mack & Holly Epstein Ojalov, 2009). Therefore, it is one of strategies that require readers to read quickly in order to get the general idea or gist of a section. According to Liao (2011), skimming is done at a speed three to four times faster than normal reading. Readers often skim when they have masses of materials to read in a limited amount of time. In skimming, readers only have to take the most important information and the main idea rather than read all of the words (Sutz & Weverka, 2009). Since skimming is related to speed, Abdelrahman and Bsharah (2014) propose that to improve reading speed, readers also need to increase concentration, improve memory and recall, and reduce sub vocalization, interruptions, procrastination and stress. They also provide the procedure of the skimming technique into three steps as follows (Abdelrahman & Bsharah, 2014):

- read first sentence of paragraph
- read last sentence of paragraph
- read key words in between

C. Careful Reading

Careful reading or reading for detail is probably the most commonly used reading strategy. This is a slower reading process that starts at the beginning of passages and proceeds to the end. When reading for detail, students should read every sentence, but they should not try to know the exact meaning of each word. Even native speakers infer the meaning of unknown words as they read. Reassure your students that even when reading for information, they do not need to know every word on the page but should try and guess its meaning from the context, a valuable skill in and of itself. If students put too much pressure on themselves when it comes to new vocabulary, the dictionary may become more of a burden than a blessing. When reading for detail, students should aim to understand about eighty percent of the information they read. If they need an answer to a particular question that they may have missed, they can always go back and scan for it. (BusyTeacher, 2012).

D. Predicting

Predicting is a very useful sub-skill that the reader may use in which he makes predictions relying on his/her previous knowledge, and then extracts the meaning of the whole text even if it contains unfamiliar words. Learners use information from graphics, text and experiences to anticipate what will be read, viewed, heard and to actively adjust to comprehension while reading, for example before and after a chart, students' list predictions before and after reading. As they read, students either confirm or reject their predictions. Magiliano (1993) stated that "*prediction strategy involves thinking about what might be coming next in the text. It is applied by effective reader that mean, they used pictures, headings and text as well as personal experience to make predictions before they begin to read*" (p. 35-53). So, predicting involves thinking ahead while reading and anticipating information and events in the text. Jessica also viewed that "it is used in reading task, it helps learners to think what will happen based upon the text, the author, and background knowledge in other words it makes students elicit their interest, activate their prior knowledge, or pre-teach vocabulary or concepts that may be difficult" (Jessica, G, 2000). In this sense, predicting requires learners to use the text to decide what will happen next.

V. READING MODELS

A. Bottom-up approach

In fact, the behaviorist school of psychology had contributed largely to the prevalence of the traditional bottom-up approach to reading in the mid-1950s.

Behaviourism claimed that learning was based upon “*habit formation, brought about by the repeated association of a stimulus with a response*” and language learning was thought of as a “*response system that humans acquire through automatic conditioning processes,*” where “some patterns of language are reinforced (rewarded) and others are not,” and “only those patterns reinforced by the community of language users will persist” (Omaggio, 1993, p. 45-46 as cited in Pardede, 2008). As a matter of fact, behaviorism became the basis of the audio-lingual method, which tried to form second language “habits” through drilling, repetition, and error correction (Pardede, 2008). According to Prator and Celce-Murcia in Brown (2001) and Richard and Rogers (1986), proponents of the Audio-lingual method perceive the students’ minds as blank boxes and empty containers. Language, in the Audio-lingual view, is speech and it is what its native speakers say (Sbai, 2015). Following the Skinnerian model, language is a matter of habit formation and language learning is a mechanical skill and no intellectual process is involved in it. For this reason, it mainly depends on mimicry, repetition and memorization based on the behaviorist assumption that the more intensively the memory connection is traced, the stronger the memory will be (Brown, 2001; Richards & Rodgers 1986, Cited in Sbai, 2015). Exactly like the audio-lingual teaching method, the emphasis in the bottom-up approach is on repetition and drills using the sounds that make up words. To put it differently, information is received and processed beginning with the smallest sound units, and proceeded to letter blends, words, phrases, and sentences. Thus, novice readers acquire a set of hierarchically ordered sub-skills that sequentially build toward comprehension ability. Having mastered these skills, readers are viewed as experts who comprehend what they read (Pardede, 2008). The bottom-up model describes information flow as a series of stages that transforms the input and passes it to the next stage without any feedback or possibility of later stages of the process influencing earlier stages (Stanovich, 1980).

This model of reading has been criticized for being insufficient for the main reason that it depends more on the formal aspects of the language, particularly on words and structure. Although it is possible to accept this rejection for the fact that there is over-reliance on structure in this view, it must be admitted that knowledge of linguistic features is also important to achieve a good reading comprehension (Pardede, 2008). As a reaction to this traditional view of reading, the cognitive top-down approach emerged.

B. Top-down approach

In the 1960s, a huge deal of refinement took place in the cognitive sciences. Behaviorism became somehow outdated as the new cognitive theory represented the mind’s innate capacity for learning, which gave new explanatory power to how humans acquired their first language. This also had a great impact on the field of second and foreign language learning as researchers explained how such internal representations of the foreign language develop within the learner’s mind (Omaggio, 1993, p. 57). Omaggio (1993) stated that Ausubel made a distinction between ***meaningful learning*** and ***rote learning***. An example of rote learning is simply memorizing lists of isolated words or rules in a new language, where the information becomes temporary and subject to loss. Meaningful learning, on the other hand, “*occurs when new information is presented in a relevant context and is related to what the learner already knows, so that it can be easily integrated into one’s existing cognitive structure*” (Omaggio, 1993 as cited in Pardede, 2008). Accordingly, “*a learning that is not meaningful will not become permanent*” (ibid). This emphasis on meaning at the expense of form has largely inspired and enriched the top-down approach to second/foreign language learning. Subsequently, in the 1970s, there was a prevalence of teaching methods and theories that strongly considered the experience and knowledge of the learner. (See section C below). These new cognitive and top-down processing approaches redefined our understanding of the way students learn to read (Smith, 1994). In this view, “*reading is not just extracting meaning from a text but a process of connecting information in the text with the knowledge the reader brings to the act of reading*” (Pardede, 2008). In other words, reading is deemed as a dialogue between the reader and the text which involves an active cognitive process in which the reader’s background knowledge plays a key role in the creation of meaning (Tierney and Pearson, 1994 as cited in Pardede, 2008). Furthermore, reading is not a passive mechanical activity but purposeful and rational. The reader heavily relies on his prior knowledge and expectations in order to achieve a good comprehension (Smith, 1994). To put it in a nutshell, this reading model focuses on the readers’ background knowledge in the reading process in which meaning takes precedence over structure (Babaiba, 2015). In this context, Clarke et al (1977) maintain that: “*the reader brings information, ideas and attitudes from the text, in which this knowledge is accompanied with the capability to make linguistic predictions*” (Clarke et al, 1977).

C. Schema Theory

As a complement rather than a reaction to the top-down approach, a very closely related to top-down approach called schema theory also had a major impact on reading instruction (Pardede, 2008). The schema theory explains thoroughly the significance of the learner's prior knowledge and background information in the process of reading comprehension. In this respect, proponents of this approach believe that learners continuously interact with the reading task and use their knowledge and previous experiences with the world in order to decipher texts. According to Pardede (2008), the ability to use this **schemata**, or background knowledge, plays a fundamental role in one's trial to comprehend a text (Pardede, 2008). According to the same source, schema theory is based on the notion that "*past experiences lead to the creation of mental frameworks that help a reader make sense of new experiences*". In this respect, Anderson (1994) found out that recall of information in a text is affected by the reader's schemata and explains that "*a reader comprehends a message when he is able to bring to mind a schema that gives account of the objects and events described in the message*" (Anderson, 1994, p. 469). He further explains that comprehension is the process of "*activating or constructing a schema that provides a coherent explanation of objects and events mentioned in a discourse*" (ibid, p. 473). For Anderson and Pearson (1988), comprehension is the interaction between old and new information. They emphasize:

"To say that one has comprehended a text is to say that she has found a mental 'home' for the information in the text, or else that she has modified an existing mental home in order to accommodate that new information" (p. 38).

Therefore, Pardede (2008) cites Omaggio (1993) by saying that "*a learner's schemata will restructure itself to accommodate new information as that information is added to the system*" They both believe that the reader plays a fundamental role in the construction of meaning. That is to say, the reader's age, gender, experience, and culture are all crucial considerations for teachers who want to select readings that will motivate their students. Moreover, Anderson (1994) notes that "*when readers cannot locate a schema that fits a text, they may find it incomprehensible*". In some cases, "*readers may not have a schema that is significant to the text, or they may need help to activate the pertinent schema to be able to comprehend the text*" (Pardede, 2008). In such cases, it will be very difficult for readers to fully understand the text. For this reason, teachers should be ready to build background knowledge as

well as activating existing background knowledge" (Carrell, 1988, p. 248).

VI. LEARNING DIFFICULTY OR LEARNING DISABILITY?

Prior to embarking on discussing the different learning disabilities, symptoms and causes, it is of paramount importance to make a distinction between learning disabilities and difficulties. In fact, there is a slight difference between a learning difficulty and a learning disability. An individual with a learning difficulty can learn using conventional teaching techniques while learning disability requires specialized interventions which depend on the type of disability. (Shirley, 2005). The most common forms of LDs are dyslexia, dyscalculia, dysgraphia, and attention deficit. It is noted that LDs can result from injuries and accident, it can be hereditary and genetic as it may come in many forms. Although it is no longer considered a form of mental retardation, it is now known that it is directly related to some type of brain malfunction. Although scientists, researchers know more about LDs now, they still do not have enough knowledge to help learners afflicted with those conditions.

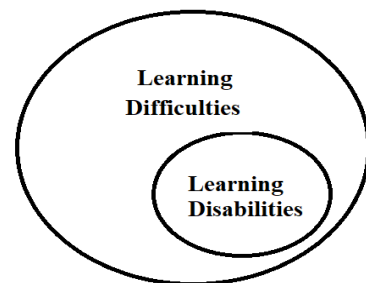


Figure 1: Learning Difficulties and Learning Disabilities (Adam & Tantall, 2008).

VII. ATTEMPTS TO DEFINE LEARNING DISABILITIES

A. Learning disabilities

Learning disabilities or learning problems are umbrella terms for a wide variety of learning problems such as dysgraphia and dyslexia. According to the Longman Dictionary of Language Teaching and Applied Linguistics (Richards & Schmidt, 2010), a learning disability "*affects a particular aspect of learning on the part of a learner whose other learning abilities are considered normal for example, specific difficulties in learning to read (dyslexia) or to write (dysgraphia)*." (p. 329). Furthermore, the Learning Disabilities Association of America (LDA) defined learning disabilities as neurologically-based processing problems which can interfere with learning basic skills such as reading, writing and/or math and also with higher level skills such as organization, time planning, abstract

reasoning, long or short-term memory and attention. (LAD, 2017). Furthermore, according to the same source, it is of paramount importance to “realize that learning disabilities can affect an individual’s life beyond academics and can impact relationships with family, friends and in the workplace.” (p. 329). Children who have some specific learning difficulties may fall behind their peers in literacy skills development. One of the most common reading problems teachers encounter in their students is Dyslexia. According to the Longman Dictionary of Language Teaching and Applied Linguistics (Richards and Schmidt, 2010), Dyslexia or “word blindness” is “a general term sometimes used to describe any continuing problem in learning to read, such as difficulty in distinguishing letter shapes and words.” (p. 187). Moreover, the Routledge Dictionary of Language and Linguistics (1996) defined dyslexia a subclass of learning disabilities and indicated that the term denotes reading and writing disorders in children of at least average intelligence (Bassmann, 1996). However, the debates over causal factors behind this disability started in the 1960s and are still ongoing. All the aforementioned definitions might still sound vague or too general because research carried out on dyslexia revealed that there is no agreement on a specific definition nor is there an approval on its causes, characteristics, symptoms or even remedies. Additionally, despite various medical and psychological explanations that have been provided, reading specialists still do not agree on the nature or causes of such a reading disability. In this respect, in their Dictionary of Language Teaching and Applied Linguistics, Richards and Schmidt explained that “because of the very general way in which the term -dyslexia- is used, many reading specialists prefer not use it and describe reading problems in terms of specific reading difficulties” (2010). Moreover, the National Joint Committee on learning disabilities in Washington, D.C provides more details with respect to a view of a learning disability as an exclusionary disorder from normal expectations of learning and achievement. It states that: Learning disabilities is a general term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical abilities. (Hammill, 1990. p. 77). As mentioned in “The Individuals with Disabilities in Education Act” (IDEA), the phrase “child with a learning disability” stands for:

A child with a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations,

including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. (IDEA, 2004).

According to Melvin Levine, Director of the Clinical Centre for the Study of Development and Learning at the University of North Carolina (1984) “Learning Disability is the term currently used to describe a handicap that interferes with someone’s ability to store, process or produce information.” He maintains that such disabilities affect learners with different ages. In his words “the impairment can be quite subtle and go undetected throughout life but learning disabilities create a gap between a person’s true capacity and his day-to-day production and performance.” For him, it is not always an easy task to immediately tell that a person has a learning disability. The most straightforward indication is his/her academic failure or underachievement by someone who seems capable of more (Levine 1984, p.1). In this vein, Saltus (1992) asserted that learning disabilities may probably be inherited as it is thought that they are caused by a neurological malfunction or processing glitch which renders written text-deciphering, sound-symbol connections and/or the sequencing of information very difficult for students to deal with. (p. 29). In fact, dyslexia is the term that is usually used to cover a very broad range of learning disabilities which involve language processing deficits. To put it a nutshell, Levine (1984) describes these dysfunctions in terms of problems relating to the following: 1) attention, the most common kind of learning disability; 2) language, difficulty in interpreting and/or remembering verbal messages and instructions; 3) spatial orientation, poor reading and spelling skills because of difficulty with processing information visually and distinguishing similar-looking letters; 4) memory, difficulties with retrieval of presumably stored information because it is not stored properly and cannot be found spontaneously; 5) fine motor control issues, which cause ideas to break down between the head and the paper; and 6) sequencing or difficulty organizing information and instructions into an appropriate order so that tasks can be successfully completed (p.1-2, as cited in Root, n.d.). In the same vein, Fowler and Scarborough (1999) outlined key component deficits that commonly characterize students with language LDs. According to them, these may include: 1) deficits in speed and/or accuracy of word recognition 2) deficits in language comprehension 3) oral-language difficulties in perception, retention, retrieval, analysis, and production of spoken words.

B. Are Dyslexics disabled or gifted?

In recent years, there are opinions (Davis, 2010) that dyslexia itself carries a particular learning style, which is characterized by global perception, thinking in images, intuitive and multi-dimensional thought and curiosity, which significantly affects the frequent occurrence of innovative and creative solutions in all scientific and artistic fields, as well as top achievements in different professions than in the general population. Hence, it appears that creativity is more pronounced in people with dyslexia, than in those without it. On the other hand, creativity is, for Renzuli (1984), an integral part of talent. Can we say that some people are gifted with dyslexia? Giftedness, according to some generally accepted guidelines, implies an ease in learning, the rate of progression and acquisition of knowledge and skills, and difficulties in identifying the talent in dyslexia lies in the fact that they are usually unsuccessful in school activities.

Additionally, Vail (1987) clarifies that learning disabilities are not always indicatives of less intelligence. In fact, people who have a learning disability are often very bright, even gifted, people. In his book, *The Gift of Dyslexia, Why Some of the Smartest People Can't Read and How They Can Learn*, Ronald Davies (1994) cites different famous dyslexics such as Winston Churchill, Leonardo Da Vinci and Walt Disney. He explained that "it is important for all dyslexics to know that having a problem with reading, writing, spelling or math doesn't mean they are dumb or stupid" He further clarified that "having dyslexia will not make every dyslexic a genius, but it is good for the self-esteem of all dyslexics to know that their minds work in exactly the same way as the minds of great geniuses" (Davies, 1994) (p. 4).

VIII. COMMON TYPES OF LEARNING DISABILITIES

The most widespread types of specific learning disabilities are those that impact the areas of reading, math and written expression. They may occur simultaneously with other disabilities and disorders of attention, language and behavior, but do not impact learning in the same way. Probably one of the most commonly identified learning disabilities is dyslexia. This term has always been associated with specific learning disabilities in reading. Although characteristics of LD in reading differ from one person to another, the National Centre for Learning Disabilities in the U.S cited few common features which may include: 1) difficulty with phonemic awareness -the ability to notice, think about and work with individual sounds in words- 2) phonological processing -detecting and discriminating differences in phonemes or speech sounds-

and 3) difficulties with word decoding, fluency, rate of reading, rhyming, spelling, vocabulary, comprehension and written expression (NCLD, 2014). Another subtype of learning disabilities is that of dyscalculia which is associated with specific LDs in math and, difficulty with measurement, telling time, counting money and estimating number quantities. Dyscalculia might not be the main focus of this research because it is not really related to language learning. In writing, we can also talk about learning disabilities. Dysgraphia is the term associated with specific learning disabilities in writing and it is used "to capture both the physical act of writing and the quality of written expression." (Cortiella and Horowitz, 2014). Accordingly, features of learning disabilities in writing are often seen in individuals who suffer from dyslexia and dyscalculia, and the degree will change from person to another and at different stages of development. According to The NCLD (2014), common characteristics of dysgraphia include: 1) tight, awkward pencil grip and body position 2) tiring quickly while writing, and avoiding writing or drawing tasks 3) trouble forming letter shapes as well as inconsistent spacing between letters or words 4) difficulty writing or drawing on a line or within margins 5) trouble organizing thoughts on paper 5) trouble keeping track of thoughts already written down 6) difficulty with syntax structure and grammar 7) large gap between written ideas and understanding demonstrated through speech (ibid.).

A final subtype worth citing is Attention Deficit/Hyperactivity Disorder (ADHD) which, for National Centre for Learning Disabilities, stands for "a brain-based disorder that results in significant inattention, hyperactivity, distractibility or a combination of these characteristics" (NCLD, 2014). According to the same source, it is estimated; that as many as one-third of those with LD also have ADHD. Furthermore, like other learning disabilities, this disorder may refer both to heredity (genetics) as well as to brain structure and function. In this respect, the NCLD states that "Unlike LD, features of this disorder can be attributed to neurochemical imbalances that can be effectively treated with a combination of behavioral and, as needed, pharmacological therapies" (ibid).

IX. THE ARABIC LANGUAGE SPECIFICITIES

Perhaps, Arabic language speakers do not notice how challenging learning it as a foreign language can be. However, when they think of Chinese, Japanese or Hindi language, they describe them as rigid, difficult or even impossible to learn because of the alien orthographic, phonological, lexical and syntactic specificities of these languages. In this respect, a non-Arabic speaker would

struggle a lot trying to note the difference between many Arabic letters. Such problems that Arabic learners face lead to hindering or slowing down their progress especially in reading as a language skill.

The present section, will discuss some of the problems pertaining to reading Arabic texts. In fact, reading in Arabic is intrinsically different from reading in most other languages. This is “*due to the fact that Arabic is a member of the Semitic family, which has some special calligraphic characteristics.*” (Shaban Ali, 2014).

Arabic has a special alphabetical system. Ferdinand de Saussure (1958) believed that Greek alphabet is the origin of all alphabets whereas Coulmas (1993) thought that Phoenician alphabet was the origin of the Greek alphabet. According to Shaban Ali (2014):

the early foundation of the Arabic writing system was not divergent, in most of its details, from the early establishment of the Semitic writing systems in general, that is, the southern Arabic alphabet, known as Al-Musnad, which is the representative of the earliest stage of the Arabic alphabet, was void of any symbol that refers to vowel sounds, be they long or short.

Additionally, Shaban (2014) mentioned that Abu-Eid (2009) maintained that “*the northern Arabic alphabet as well, originated from the Nabatean, was also void of reference to vowels.*” It is worth mentioning that the northern alphabet is the dominant Arabic system now, and on which many modifications were done (as cited in Shaban, 2014).

A. Diacritics

Even Arabic speakers struggle with the diacritics in Arabic. The diacritical marks/accents put over and under the Arabic letters are not normally represented in the written form of Arabic texts expect for pedagogical or religious scriptures, e.g. the Qur’an. For this reason, “*reading in Arabic requires more cognitive demand and mental processes for associating a written symbol to its phonological representation*” (Shaban, 2014, p. 4). In his study at Al-Azhar University in Egypt, Shaban Ali mentioned some of the problems associated with reading Arabic. He explained that accurate reading in Arabic requires operating many cognitive processes, among which we mention (1) *Envisioning the symbols that constitute the word and linking them to their appropriate phonological representations.* (2) *Envisioning the appropriate form of the word.* In this stage, he maintained, “*the reader is*

obliged to choose from a number of choices that may go up to five; each of them has many possible readings and many different interpretations.” (ibid. p.5). This, in fact, can be explained by the fact that the absence of short vowels in Arabic made it a homographic language in which you may find a word with several meanings depending on the context in which it occurs. Thus, it requires the reader to use more cognitive efforts, and applies many mental processes to decode and render the written symbols into sounds in order to infer the exact meanings. In the same study, Shaban Ali cites the example of the root ك ت ب , K T B: “to write”, has six possible lexemes:

He wrote	kataba	كتب – A
It was (has been) written	kutiba	كتب – B
He asked (forced) someone to write	kattab	كتب – C
He was asked (forced) to write	kuttiba	كتب – D
Writing	katb	كتب – E
Books	kutub	كتب – F

(Shaban Ali, 2014)

B. Arabic Script

The Arabic alphabet has a number of extremely similar symbols and letters. The only way of differentiating the letters is by placing a dot or more above or under the symbol. Shaban Ali cites an example of the sounds: “B”, “T”, “TH”, “N” and “Y” which are represented by an identical shape in the following words:

He reads	Yaqra'u	يقرأ -A
She/you read	Taqra'u	تقرأ -B
We read	Naqra'u	نقرأ -C
A cow	Baqaratun	بقرة -D
Heavy	Thaqilun	ثقليل -E

(Shaban, 2014)

As shown above, the list of words all have the identical shape —. The difference that distinguishes the phonological value of these graphemes are the number and the placement of dots on the graphemes. The sounds "Y" ي and "T" ت are marked by two dots, but they differ in positional occurrence from each other. The dots are placed under the former, as in the example A, but above the latter as in example B. On the other hand, the sounds "N" and "B" are marked by one dot, but it is placed above the "N", and under the "B", as in examples C and D respectively.

Only the sound "TH" is marked by three dots which are placed above the shape. Moreover, some of Arabic graphemes have different forms according to their positional occurrence in the word; the most acute of them is the letter "H" ه which transforms into the shape (ه) when it occurs at the end of the word.

X. PREVIOUS STUDIES IN THE ARAB WORLD

Of course, students who suffer from LDs will experience the learning disability when learning or acquiring any language. However, the areas of difficulties will differ from one language to another. So, while a student might read or write the letters in English, French or Spanish backward, another might find it difficult to put diacritical marks on top or below Arabic letters. Also, while one student might find it difficult to differentiate between 'd' and 'b' as they look much similar in shape, another student might struggle trying to distinguish between some Arabic letters which are similar in shape such as: ض and ص, ب and ت or ث, ع and غ ... to name only a few.

In this subsection, we will look at various studies which were carried out on LDs in Arabic in an attempt to understand the areas of difficulties students are more likely to fall into when exposed to Arabic texts. Some of the most prominent studies were done by A-Ssayed (2003) in Kuwait, Kamil (1999) in Egypt, Al-Khatib (2003) in Saudi Arabia and The Kuwaiti Association of Dyslexia. They are all cited in The Azhar Journal of Human Sciences in Gaza in 2011.

To start with, Al-Khatib (1997) cited some of the possible characteristics of LDs when exposed to Arabic texts:

The difficulty of remembering the alphabet names and their forms.

1. Writing/Reading the letters in a reversed manner.
2. Reading small words incorrectly or omitting them.
3. Stuttering and struggling with long words.
4. Weak reading comprehension.
5. Slow reading pace.

(Al-Khatib, 1997 as cited in The Azhar Journal, 2011).

Additionally, some of the characteristics of dysgraphia when spelling in Arabic were identified by Essada (1995) as follows:

1. Stressing the diacritics when reading.
 2. Dividing letters or attaching them.
 3. Skipping letters in words
 4. Forgetting/adding dots on top or below letters
- (Essada, 1995 as cited in The Azhar Journal, 2011).

A. A-Ssayed (2003) in Kuwait

His study aimed at investigating the frequency of LDs and difficulties among second grade students in Kuwait. The population consisted of 1027 students, 531 males and 469 female students. Raven's progressive Matrices, the behaviorist criteria as well as the criterion of the personal assessment were used to measure the LDs. The findings have shown that 16% of the selected population (N=81) had reading difficulties while 12.3% suffered from writing difficulties whereas 18.5% found to struggle with math (dyscalculia). The study has also revealed that 19.2% of male students experience reading difficulties as opposed to 10.3 of their female counterparts. On the other hand, 7.7% of male students had spelling difficulties as opposed to 20.7% for females. Overall, there was an indication of difference of 0.05% between the two genders in favor of male students (A-Ssayed 2003, as cited in The Azhar Journal, 2011)

B. Kamil in Damyat in Egypt (1999)

Similarly, the findings of Kamil's study was in favor of male students at the expense of their female counterparts. The study focused on first grade students at primary schools in Damiat city. It aimed at investigating the learning difficulties students are more likely to suffer from. The study was carried out on 914 students using the Test of the non-verbal intelligence and the Test of Visual and Auditory Awareness. The study revealed that there were significant differences in favor of males when it came to reading and writing while there were no differences in terms of calculation (Kamil 1999, as cited in The Azhar Journal, 2011).

C. Al-Khatib (2003) in Saudi Arabia

The study aimed at identifying the LDs among public school students. The study was carried out on the Industrial Schools of Al Jabil in Saudi Arabia. Six questionnaires were designed for the purpose of being randomly administered to 521 students and 51 teachers of Arabic of the second grade in the academic year 2000-2001. The qualitative analysis of the questionnaire has revealed a sort of discrepancy between the students' answers and the teachers' responses regarding the practices which hinder the process of reading for students such as: the topics were of little/no relevance to the students' interests and the over-reliance on verbal instead of visual contents (Al Khatib 2003, as cited in The Azhar Journal, 2011)

D. The Kuwaiti Association of Dyslexia

In partnership with The Ministry of Education, The Kuwaiti Association of Dyslexia carried out a study on

1754 first grade students (1110 male and 644 female students) in primary schools in Kuwait. The findings revealed that 110 of students, a percentage of 6.29% of the overall population suffered from reading and writing disabilities/difficulties. The study indicated that the percentage of students with hyperactivity as well as the lack of attention ranged between 3% and 5% among school children. On the other hand, another study showed that this percentage is higher among teenagers which ranges between 10% and 20% (cited in The Azhar Journal, 2011).

E. Dabss (2000) in Jordan

This study aimed at identifying the areas of difficulties students are more likely to fall into while reading/writing Arabic texts. Dabss (2000) used a questionnaire which contained 17 paragraphs to measure the reading skills and 15 paragraphs to measure the writing skills of students. The study revealed that 11.58% of the school students suffered from reading difficulties. The reading difficulties are cited below from the highest to the lowest:

1. Difficulty to distinguish between the letter ل (Sun letters) as in الشمس and the ل (Moon letters) as in القمر.
2. Slow reading.
3. Losing track of reading.
4. Skipping lines while reading.
5. Struggling with long words

(Dabss, 2000 as cited in The Azhar Journal, 2011).

XI. ALTERNATIVE APPROACHES TO SLDS

The classic way of teaching is not helpful for students with dyslexia/specific learning disabilities (SLD). This is the reason why there are many multisensory programs for students with dyslexia in the last decades and a space for the creative use of ICT in their education.

The bases of a multisensory approach in the process of learning and training students with dyslexia have been an integral part of many programs for remedying and overcoming reading difficulties (e.g. Palinscar & Brown, 1984; Temple et al., 2003; Trei, 2003; Joyce, 2004). According to Obradovic:

the multisensory approach refers to any learning activity that provides simultaneous input or output through two or more sensory channels. The material taught this way is easier to remember. This approach is considered to be very suitable for people with dyslexia and bilingual persons who may have difficulty in understanding verbal instructions (Obradovic, 2014).

That is to say, by assumption, due to a failure in people with specific learning disabilities, a sensory channel may have restrictions, therefore, it is sometimes very difficult for them to receive information from only one sensory modality properly. In addition, students are generally believed to learn better when the learning contents is presented to them both verbally and graphically.

Furthermore, A significant issue that has concerned many education authorities around the world is whether students with learning disabilities should receive their education in mainstream classrooms or in some form of special schools. A number of researchers support the view that students with LD require an alternative approach to their learning, while others claim that it is best to integrate these students with mainstream classes. While many integration and remedial programs have proved ineffective for this group of students, the literature shows that in some selected fields, such as mathematics and social studies, specialist instruction has had little success. Overall, however, there is considerable evidence to support the view that separate schools should exist for students with learning disabilities.

XII. THE INTEGRATION OF ICT IN TEACHING READING

Recently, there has been an increasing call for the integration of Information and communication Technology (ICT) into teaching and learning. ICT covers a wide range of technologies. It refers to all technological tools and resources used for communication, creation, storage, management, and retrieval of information (Nordin, Embi & Yunus, 2010; Thierer, 2001). These technologies include computers, mobile phones, television, radio, internet and so on. According to Wernet, Olliges and Delicatch (2000), ICT empowers education as it is seen as media that offer learners a wide range of information, which the teacher may not have control over. In other words, the learner does not necessarily need to be in the classroom as learning can occur anywhere with the use of these technologies. These technologies also offer the learner the opportunity to control their learning process. ICT is a valuable tool to enhance teaching and learning. For teachers, ICT is a professional resource, a mode of classroom delivery, and a source of valid and valuable text types (Nordin et al., 2010). For students, ICT provides opportunities to communicate more effectively and to develop literacy skills including skills in critical literacy. It is a valuable tool for researching, composition and despondence (ibid).

Reading involves the process of encoding words (Floyd et al. 2007) whereas writing is believed to be an encoding process. The following section will examine the pros and

cons of the integration of ICT in language teaching in general and in teaching reading in particular.

Many studies have been done to investigate the advantages and disadvantages of integrating ICT in teaching/learning languages. However, most of the studies' findings on the pros outnumbered the cons.

A. Advantages of Using ICT

According to a study in Malaysia by Melor Md Yunus et al. (2013), one of the popular tools which is commonly adapted in the teaching of reading and writing is the use of blogs. Accordingly, blogging offers a real-world digital medium for communication. It is multi-dimensional in that it does not just offer a 'container' for writing but has the possibility of multiple audiences and access points. Also, "online blogs allow students to get feedback from more than one person, and this type of peer feedback may be more effective than traditional self-editing" (Holder, 2006). In a research conducted on the teachers' attitudes towards the use of ICT in reading and writing, 23 teachers were interviewed and asked about practicality of ICT in reading. The findings indicated that the use of ICT was said to be beneficial in terms of attracting students' attention. Students were said to be more interested in the lesson when ICT was used. Additionally, it is reported that ICT use could help meet the teacher's teaching objectives as ICT supports the teaching process. The third advantage was that ICT could help students improve their vocabulary and enable them to find out the meaning of the words in the texts they read. This happens when students read a certain article online, when they check the online dictionary for the meaning of the words which are unknown for them. Many lexical items could also be learnt when they watch any movies with English subtitles. (Melor et al. 2013).

Lastly, it is reported that the use of ICT can be also useful in terms of getting suitable reading materials online. The findings suggested that when ICT was integrated to teach writing, the lesson appeared to be more interesting. Students were reported to be able to relate to what they learn more easily. Moreover, ICT use could help make the learning process more meaningful for ESL learners. Finally, Melor et al. explained that ICT is not viewed as a conventional method but a new and creative method of teaching. He believes that the integration of ICT in writing encourages students to be autonomous learners. In his words: "This happened when students had access to the internet. Besides, the internet enabled students to read good sample essays online which could guide them in their writing process." (Melor et al, 2013).

B. Disadvantages of Using ICT

In spite of the many advantages that the use of the new technology has in teaching reading skills, Melor et.al (2013) have shown that the use of ICT in the classroom does not go off without a hitch. One of the problems that their study reports is that the use of ICT in teaching reading skills makes it harder for teachers to control the class. In this respect, one of the interviewed teachers clearly stated that:

"When you bring students to the computer labs, it's more difficult to control them. Sometimes you might want them to read a certain article online, but they might be distracted to see other websites. When the students have computers in front of them, they tend to visit other websites and not do the tasks you have assigned for them."

Furthermore, students are believed to get too excited when ICT was used and this had caused problems to teachers in terms of class control. In the same vein, a teacher declared that students are used to a traditional way of learning with a board and markers. However, when you start to use ICT, students will get very excited and they get distracted especially when they are engaged with ICT. In his words: *"when they get to use the computers and internet themselves. Another thing is that they tend to focus less when they get too excited about something."*

Besides that, most interviewed teachers drew the attention to distraction as the main drawback of ICT integration in teaching/learning. In other words, they explained that students might be distracted by other elements in the website when they use the internet. As a result, they deviate from using the internet for educational purposes to entertainment purposes. In this regard, one of the teachers stated that "I'm afraid of what the students actually learn from the use of ICT. Sometimes you want the students to search for articles on the net but they might browse other inappropriate sites and they end up not reading the appropriate articles.

Additionally, Melor et al. maintained that besides the distraction factor, teachers were afraid of the actual content from students' readings on the internet as there were so many articles available and students might not actually read what they are required to. Finally, some teachers went further to refer to the poor internet connectivity as well as the lack of ICT tools in unequipped classrooms, as two main disadvantages of ICT use in the classrooms. In this respect, one of the teachers reported that the poor connectivity of the internet in schools poses some problems

in doing reading and writing activity that needs the internet. He also referred to the lack of facilities like the LCD projector and individual laptops make extra problems. Another teacher explained that the classrooms are not equipped with the ICT tools and that teachers often have to bring the students to the computer lab bearing in mind that the capacity of computer labs is insufficient. In his words: “how can I cram 30-35 students in a small room with 15-20 chairs? Some of the students have to sit on the floor. And the internet goes on and off, and is too slow.”

With regards to the disadvantages of using ICT in teaching writing skills, interviewees reported that students tend to use the ‘SMS language’ whereby they use short forms excessively like what they do in the short messaging system (SMS). In addition, a lot of time is wasted when teachers face technical glitches. It was also reported that not much input could be delivered when teachers use ICT and the risk was that students might not get what their teachers were trying to teach. (Melor et al. 2013).

Apart from the debate of whether the use of ICT is beneficial or not, it is obvious that the pros outnumber the cons in terms of practicality. Also, if used carefully, ICT will be optimal and will have no/limited disadvantages. Indeed, in this post-method era, where technology is in full swing, most language teachers are aware of the challenge ahead of them to integrate ICT in their teaching. I truly believe that ICT is a very important learning/teaching tool from which researchers in the field of education and teachers can benefit a lot. ICT offers various facilities that fit different students’ needs. It is a multi-sensory approach to language teaching which is adopting a learner-centered model that supports students and encourages their potentials of being effective learners.

XIII. CONCLUSION

This paper provides a deep overview of the reading skill and its subskills and models. It also discusses different studies related to reading disabilities and difficulties. It raises some important questions as to what role technology plays in learning for students with reading or writing difficulties. Do students have access to relevant tools and are they trained to use them? How is ICT used in this part of special education? Do teachers have the skills they need to facilitate ICT support for these students? It is a well-known fact that technology is developing fast and research in this area must keep pace with it.

It is often said that “*If students don’t learn the way we teach, we, perhaps have to teach the way they learn*”. In other words, the development of a ‘friendly’ school environment certainly has positive effects both on typical students and on students with special learning disabilities. For this reason, schools must adapt their methodologies to accommodate their students’ needs. The use of ICT has the potential to empower learners, SLDs in particular, by offering them, the opportunity to construct their own learning experiences. It is high time we shifted the emphasis of teaching from the acquisition of encyclopedic knowledge to the development of students’ personality and competence and the use of ICT can help achieve this goal.

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