Original Paper

The Role of Phonological Awareness in Reading Acquisition

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Abstract

The phonological awareness has a great importance in the learning to read process, as almost all the studies over the past years found the importance of phonological awareness in the learning to read process in general. If the child can observe and distinguish all the phonetics that the word contains which meansthe word containsphonetics'awareness, he will learn the conjugation between phonetics and the written letter or between phoneme and grapheme, and this is what some researchers pointed out as they examined children's performance in the phonological awareness tests in the kindergarten stage as an important indicator in the future school achievement, especially reading and writing achievement.

Keywords: phonological awareness, acquisition, reading

Introduction

Research differed about reading, from being a visual perception and understanding to a linguistically based activity used in communication that is not a guarantee of success in reading, in other words, who understands the linguistic basis can communicate but it is not necessary to be a good reader, and many studies have proven that reading and writing rely heavily on verbal linguistic capabilities (audio). Hence the main task of the novice learner is to realize that the speech can be divided and these parts can be written, so phonological awareness skills, which include in the realization that language contains of words, syllables, and phonetics and that these components can be formed in many ways that are closely related to success in reading in the early years of learning to read.

Phonological awareness definition:

Phonological awareness is a powerful self-learning mechanism associated with the term alphabets. The child has to start learning the general principle of the alphabet and then acquires a sufficient number of matches between letters and phonetics to begin to decode. This letter-voice match begins quickly and gradually becomes automatic (Zorman, 1999, p. 139).

Phonological awareness is the ability of individuals to distinguish different speech components and the awareness of parts in different dimensions and to deal with phonological units, it is not innate or spontaneous, but appears with learning to read and grows in an interactive form with it (Issofaly, 1999, p. 95.)

Phonological awareness is also defined as "the ability to perceive, produce, and represent non-semantic focal units of the oral language such as syllables, rhymes, phonetics" (Zorman, 1999, p. 140).

Phonological awareness is defined as "the ability to present language as a series of clear phoneme units by people." Researchers who have developed this term such as: A.Morais, J. Content, A. Al égria distinguish awareness of phonological sequences that allow a person to transform the language from its interpretation to focus on tone, ringtone, syringe rhymes, and phonemic awareness allows to the speech perception as a complement to parts, and phonemic awareness also allows the phonetics discovery which are abstract constructs from the simple exploration of parts (Barais, 1993, p. 313).

The development of phonological awareness:

Before the emergence of metaphysical behaviors, there are behaviors that are evolving in the child and

appear subconscious and spontaneous, which allow him to appear metaphysical behaviors with unintended phonological behaviors or what he calls "combert" or (comportement épiphonologique) in French.

Where the beginning of the phonological awareness developmentin activities is of the linguistic exercises type that cause the child to draw his attention to the phonetic truth of the language, this makes him distinguish between unintended phonological abilities and capabilities beyond phonology, so unintended phonological performances appear before the third year through oral exercises, and in production of rhymes, which are initially spontaneous without any monitoring, such as talking with friends or family members, for example, then it is asked fromhim in more serious situations asat school (Bertin & Retailleau, 1999, p. 79).

And it was noticed later that in exciting situations, at this age the child becomes able to distinguish between the phonetics that belong to the language and it is not obligated to think about these early behaviors with phonological structure and awareness in dealing with the parts of the verbal chain, we should wait until somewhat between three and five years where it was noticed that he has primary behaviors in cutting and relates more to the phonemic matter handling than the symbolic matter analysis.

Non-phonological behaviors are also seen as a phenomenon of unintended phonological system and are based more on intuition rather than on thinking, and the segmentation language gives the child an unconscious knowledge of some language system aspects, which allows the phonological parts implicitly organized.

We have to point out here the importance of that the child having unintended phonological knowledge because it contributes to the emergence of activities beyond the subsequent phonology that are successive to phonological awareness, then his ability to monitor the phonological dealings activity with intent that are employed early and effectively, but the transcendental behaviors appear in an exciting way since the age of five as a result of training courses that are not based on a condition in the clear learning of the relevant phonological features or the effective procedure for achieving good cutting.

As noted above, unintended phonological behaviors are necessary for the emergence of metaphysical performances since unintended phonological employment may well determine a child's availability of these capabilities, according to "content" that the emergence of metaphysical behaviors in the majority of the six and seven-years-old child can be considered a result: Either for phonological intentional interaction activities, or for the age of six and seven as well, but when reading and writing activities appear and their use is used to learn the alphabet.

But the important thing is that the unintended phonological skill is considered as a tribal acquisition which paves the way for the emergence of the ability beyond phonology or the phonological awareness development to found the unintended phonological behaviors.

As for the classical theories, it is believed that phonological awareness consists of three levels which are rhyme, syllabic and phonological awareness, and the following is a breakdown of all these levels:

The development of rhyme awareness:

It was observed that in the majority of children through the use of (rhyme-scheme) in spontaneous language exercises, some children with four years are able to recognize the rhyme (Zorman, All, 1999, p. 141) and according to the authors of the symmetry models "V.Goswami" "P., E. Brayant notes the rhyme in very early stages of reading acquisition, which is the result of a study found amongthe preparatory school children. In another experiment, the author "V. Goswami" demonstrated that children who are not readers whose ages five or four months are able to extract a portion of symmetries when it relates to rhyming words (Sprenger, Charoles, & Csalis, 1996, p. 20).

"Maclean and others" have confirmed its presence in 20% of the three-year-old children who have studied rhyme awareness for isolated words (Issofaly, 1999, p. 95).

For this it can be said that the rhyme awareness growth takes place before the age of school entry and

does not require learning reading to grow but it is gained through verbal, spontaneous exercises and language experiences with the environment.

The development of the syllable awareness:

As for the second level, that is, the "syllable" is no longer considered as a linear series of phonetics, but as a serial phonological structure, and it is made up of two main components the rhyme – the scheme. Through various linguistic experiences, it can also be acquired (rhyme or syllable) in an implicit way before school age (Zorman, 1999, p. 143).

The syllable according to "Lumbreg" is also defined as a composition of simple phonetics composed of one or more words agreed upon with its natural respiratory rhythm with the language structure with formulas of its vocabulary (Mihopy, 2000, p. 167).

Therefore, the syllable awareness perceptionhas been recognized before the school age, and its ease perception is due to the fact that it corresponds to a unified verbal verb with ease of isolation or as long as the syllable is a unit of phonetics stable on the rhythmic level, which makes awareness of this unit develop early (Santos, 1999, p. 16) until In the Arabic language, the syllable is considered to be the smallest synthetic unit of the word or the smallest mass on which the speaker can stand, and it consists of a number of silos and voices accompanied by other phoneme phenomena such as tone and toning (Mihopy, 2000, p. 168).

The development of thephonetics awareness:

The third level differs from the previous two levels. This requires clear learning and growing connected with reading, unlike the non-sectional phonetics that is not perceived as isolated but always integrated in the syllable (Sindirian, 1992, p. 15) and through a long study of "Gswami" it was seen that people must wait until the age of five for phonetics to be discovered (Vanthout, 1998, p. 41).

According to "J, Ronda" and "B, Bredart" it is that at the age of three, five and half children appear sensitive to the phoneme of the language since they can voluntarily distort some words and amuse the mistakes of pronouncing others, and this is by changing or distorting how to pronounce phonetics of words (Vanthout, 1998, p. 42).

Phonological analysis often develops by communicating with the alphabetical system that leads to the development of this skill (Casalis, 1995, p. 38), as phonetics is the essence of cutting and there is composition, and the movements of the tongue won't be verbal or perfect speech, or won't be spread except with the appearance the phonetics (Hanafi bin Essa, 1980, p. 27.)

"Malean" also indicates that 20% of children who are three years old are aware of the rhyming of isolated words, but their vocal knowledge does not allow them to pass the most complex analysis tests.

"Liberman" and others also conducted a long study that was on children aged four and ten months and followed them until the age of six. They applied the sectional segmentation and audio tests, so they concluded from this study that since the age of four, half of the children (46%) had practically passed the sectional segmentation tests, but no one was able to perform segmentation with phonetics only (17%). By the time they reached the age of six, the majority of children were able to pass the tests with a significant percentage (90% in the segmental segmentation and 70% in segmental phonetics) (Issoufaly, 1999, p. 100).

Sectional segmentation is more possible at the age of four or five, while segmentation is only possible at the age of sixand half, or seven if the child contacts the tests that require this type of analysis (Bredart & Rondal, 1997, p. 29).

The majority of children between one and seven years old, and even the youngest, reach the goal of deleting the first syllable, but deleting the middle syllabus remains a problem at the age of twelve (only 45% succeeds at this age) The same is true for deleting the last syllable so it is achieved at about the age of seven and its ease is due to the fact that it corresponds to a simple and intersecting repetition of the provided word (in the two-syllable words, 80 of the six-to-seven-year-old children succeeded) with regard to the deletion of the first and at last phoneticswas found at the age of six and seven, and the deletion in the middle place is achieved at last (a quarter of children just succeeded in it) (Guillemette

& Bertin, 1999, p. 83).

In general, the ability to use phonological awareness only appears at the age of six at the time when writing is realized according to "A Content". This phonological skill does not appear entirely unless the child communicates with the form of writing where this skill is necessary, and this means that access to the written code (The oral language does not require a segmental analysis of the phonological structure of the language). In this direction, "Al égria" explains that the writing has a special and motivating characteristic to the emergence of this segmental structure awareness, and there is no other skill that requires this kind of awareness (Issoufaly & Primot, 1999, p. 47).

The phonological awareness levels:

The awareness of phonological chains:

Which requires that the individuals have to move away from the meaning to focus on the speech form, this awareness appears when the child tries to repeat the words he hears correctly or when he protests to the imitation of him while speaking, and it requires focus on how to pronounce and on the units perceived prominently such as rhyming and syllables "Morais" "Content" and "Alegria" see that such awareness does not require the child to visualize speech as a chain of abstract factors (Le Cocq & Pierre, 1991, p. 58.)

But "Le Cocq.P" thinks the opposite, his opinion takes analytical capabilities in this period in its place and is based on the cognitive parallels "Lenel", "Content", "Valley-Smith", "Jusizug" and it includes broad units that differ its dimensions vary according to clues, the units position in the chain, and the child's temporary attention.

The phonetics awareness:

Speech is understood as a chain of syllables which means the lower units "Les units éminimales" that allow phoneme discrimination, as children begin to control the principle sectional segments(Le Principe de décompositionsegmentale), but the phenomena associated with pronunciation (Les phénomènes Co-articulions) that affect their judgments.

"Chinney" indicates that children before and at the beginning of their schooling subject in their discriminatory abilities to the phonological characteristics of the silos (sensory and in fusional) and to the verbal conditions in which the silos are present and to the ratio of the stability of the parts where the silos are identified and from it the analysis of the parts where silos are recognized and so the analysis of parts is not subject at this level to the influence of surface factors.

The literal awareness:

And it assumes a new change of the individual intentional stressors, whereby the difference in the speaking way or how to perceive and understand is no longer the important thing, but rather the differences of words (Les diff crentiationslexicales) that play an important role in this level, as opposed to phonetics' perceptions, perceptions of letters as it is not possible to result from the mere observation of perceived phonograms or from mental images of phonological chains the signs of pronouncement, as we can obtain them only when marginalizing phoneme changes "Morais" in 1987, then phonological awareness requires special experiment that facilitates this abstraction and there is no doubt that reading is a special experience.

It is evident that according to its continuous development, children can first achieve some tasks that require their analytical abilities in word processing and it comes to counting tasks (counting words, syllables and phonetics) and dividing words into smaller units then to factors and identifying rhyme and total factors presented separately, etc. (Le Cocq & Pierre, 1991, p. 58).

The characteristics of the phonological awareness in the Arabic language:

As for the Arabic language, the short sounds are often omitted from the words to keep the movement above or below the letter the only sign of its existence, and thus in the Arabic language it depends in its analysis on the simple syllable, where we cannot separate the silent from the wordsounds, for example if we ask anyone to remove the first letter From the word "kataba" and pronouncing what is left of it, we never get (ataba) ((as is the case for English and European languages, for example, when we remove the first letter of (bateau), we will get (ateau), but this is not possible at the level of the Arabic language)), but we always get (abat), meaning that the silent and sound is deleted, which makes us unable to talk about phonological analysis at the literal level, but rather about the phonological analysis inside the syllable (L'analyse intra-syllabique) for example, the sectional analysis of the word Msjd($\omega - \tau - \omega - \gamma$).

The same is true for the Japanese language, which depends on the syllable, as we are not talking about the analysis, but rather about the analysis inside the syllable, as for long sounds that depend on thevowels

Stages of phonological awareness:

Early discrimination between linguistic and non-linguistic sounds:

The numerous experiments carried out by "Smith" and "Tager" who studied the ability to distinguish the speech sounds from other sounds such as (snoring) can be noted in two stages:

The first stage:

It is a training stage where the sounds that consist of clips or other daily sounds are shown among a sample of children whose age from three to five years and the task that children must do is to decide whether the audio soundbelongs to the verbal voices. The application was applied individually and the examiner corrects the wrong answers firsthand and immediately after the arrangement, he moved to the secondlevel.

The second stage:

It is an experimental stage similar to the previous one, but it is characterized by the absence of corrective reactionary feeding, and the results of the children of the sample who obtained (67%), for children whose age from four to five years, are significantly indicative of the random answers resulting from the luck factor (56%), Where the results were spontaneously (40% and 50%) in addition to 22% of the sample whose age from three to four years (28%) of children from four to five years received 9 correct answers from among 10 required answers, and the two researchers consider this result as conclusive evidence of early metaphonological capabilities. (Combert, 1990, P92-96)

Knowing the syllables:

The most studies that concerned with the identification of syllables, are those related to early identification of rhyme (La rime) by the child, and it is a noticeable tongue behavior in our daily life, such as "eshrab, ehrab", which are two harmonious words where they have the same rhyme "rab".

Among these studies, we find that study carried out by "Content", whodepends on the forced testing technique to study the ability to identify the words with the same rhyme among children between the ages of four to seven years, for example a child has to mention any of the two words a chair or a flag that fits with the word "pear" and in the experimental stage which followed by six attempts with corrective feedback.

The results of the corrective answers are as following:

77% for the age (four - five years)83% for the age (five-six years)87% for the age (six- seven years) (Combert, 1990, pp. 92-96)

Knowing the letters:

The recognition becomes more difficult when moving from the syllable which is considered by many authors to be the natural unit of cutting speech to the letters that supposedly divide this unit.

It is worth noting that the study conducted by "Coll" and "Viberman" and a group of researchers in 1974 where they used the same method to study the child's capabilities to consciously distinguish letters parallel to the number of syllables consisting of words and it is related to re-pronouncing the

syllable or mono word sections by five, six, and seven year old children, then hit the table by the number of letters in the displayed section (from one to three letters).

Here also at the training stage consisting of (twelve attempts) and at the experimental stage contains (forty-two attempts), errors committed by children are corrected by the examiner and represent the criterion of success in overcoming six successive attempts, and the success rates were as follows:

0% at the age of five

17% at the age of six

70% at the age of seven

And whatever the age of the examined child, there was not a single child who managed to succeed directly in the first stage attempts, and the average number of the needed attempts to succeed is (twenty-six attempts), either for the age of six or seven (Combert, 1999, pp. 3-9).

Phonological observation:

(Rendal&Bredart) indicates that children from the age of two and half are able to correct their vocal errors alone, but at the same time they cannot determine how to make corrections in any way.

If these productions certainly constitute the phonological games (Les jeuxphonologiques) then nothing shows here that it is related to something other than just playing with tools that resemble the language with anything other than linguistics, and this is what each of (Garlex&Anisfeld) proposes and they believe that there must be a discrimination among the young child between the functional and the used language to communicate with others and the language free from this function. Here, reference should be made to the (voluntary) observation situations, which allow the discriminationbetween the child's metaphonological abilities and the other voluntary skills (Alegria & Coll, 1995, p. 96).

Voluntary processing of syllables:

Although most researchers consider a single syllable as a linguistic processing unit in particular, there are a few studies that have concerned with the ability that children have to treat the syllablesvoluntarily. And most studies have indicated that the most fulfilling item for determining the metaphonological treatment of the syllable unit is the task of deleting the first syllable which is successful in a significant proportion starting from the age of six. If isolating the first syllable from the phoneme is easier than isolating the letter, so it is assumed to obtain correct results at a later age in relation to the letterunit.

Voluntary processing ofletters:

"Gold Stein" found in 1979 early successes in this field, where children were asked to isolate the components of the two-syllable words consisting of two to three letters (tea / t-e-a). The experiment consisted of four stages: two experimental stages followed two stages through which children were taught to divide the double-syllable word and then the triple syllable word into letters in addition to that, before producing the performancesthat were taken into account in analyzing the results, the children had to reconstruct the words by hearing a series of letters consisting of them such as: tea / t-e-a and the words presented to them were formed through hearing a series of letters half the number of words presented to children who had to cut them and this researcher reached a success rate estimated at: (17%) to (46%) as indicated by (Coll&Nesdal) and group of researchers. The results of this study have deviated as a result training, and therefore, these results alone cannot demonstrate any early metaphonological potential.

According to the experimental study results that were reached by some researchers, including: (Bradly), (Brayant P, E), (Olofsson) and (Lumberg, L) showed that success in qualitative training experiences of phonological awareness among children is through training on segments that improves reading level (Issoufaly, 1999, p. 95). In other words, segmental analysis training appears to be a form of conceptual preparation for children who were prepared to be more willing for formal learning to read (Le Cocq & Pierre, 1992, p. 58).

The existing relationship between phonological awareness and learning to read:

According to many data obtained through long studies, predictive and comparative experimental studies and training experiences that indicate the importance of the child having certain knowledge of the formative units of speech from a certain aspect and a procedural skill in its use (discrimination, flip over, fusion ... etc.) in Learning to read, on the other hand, according to (Le Cocq), it appears that these abilities have a specific role in preparing the child to realize the first formal learning of reading. (Le Cocq & Pierre, 1991, p. 60).

And in experimental studies (Combert, Bradley, Juel, Olofsson) that were conducted on reading during the last twenties, it was clarified that "One of the basic determinants of the first progressive reading progress is at the same time a means of preventing leakage in learning to read is phonological awareness", For this reason, numerous studies have indicated a link between learning to read, the ability to recognize, and the intended use of a number of phonological units of the oral language (Zorman, 1999, p. 73).

The importance of phonological awareness was attributed to the reading acquisition model only. This model consists of segmental units, phoneme, and due to the child's awareness he understands the alphabet that allows him to establish the relationship among the written form and the child must mentally isolate the phonological units. Other studies emphasize that there is a strong and mutual link between the level reached in reading and phonological competencies. The skills appearing in phonological analysis are a good prediction of success in reading (Casalis, 1995, p. 20).

"Content, A" says that the ability of clear voice analysis appears to be related to the recognition of the (literal-phonetic) match, which undoubtedly plays a very important role in acquiring reading (to decode the new words) from that of word recognition by a skilled reader (Combert, 1990, p. 19).

And it is required that there is a minimum awareness of segmentsamong unable reading child, which later makes him learn reading (the existence of syllable awareness), this exchange of these phonological skills foretells of a good success in learning to read (Estienne, 1998, p. 14).

All authors agree on an idea (according to the framework of segmental writings) that awareness of phonetics is a good prediction of subsequent reading ability (Santos, 1999, p. 16) and thus the researchers point to an important point which is taking into account that the awareness is very necessary to understand the alphabet and thus begin to learn reading (Santos, 1999, p. 33).

On the other hand, the activity of learning reading affects the segmental awareness development of speech, as it contains clear and special exercises. Phonetics awareness requires clear learning to read and develops in non-segmental interaction, which is acquired implicitly before the school age (Sindirian, 1992, p. 13). Learning to read facilitates the development of phonological awareness, as well as the partial structure awareness that has no place outside the framework of acquiring reading in the alphabet system because there are no other skills that require the child to have this kind of awareness (Issoufaly, 1999, p. 100).

The researchers also noticed the effects of the learning to read phenomenon on the capabilities beyond the phonology, which is the result of learning to read, and because it constitutes a tribal acquisition and in general units of speech awareness that do not develop before the sixth age, especially since it does not represent any benefit to the child and any necessity before this age, so learning the alphabet makes analysis Speech is necessary and constitutes an excellent position to activate its development (Combert, 1990, p. 150). The researchers also added that learning the language leads the child to the gradual construction of phonological representations and the development of analytical skills in some cases that facilitate his understanding of the written system, and first learning the alphabet and then matches the letters and phonetics that allows him to create a spelling representation (Fayol &Combert, 1992, p. 218).

But the important thing that the researchers refer to is among the units that cannot be developped outside the framework of learning to read from the alphabet system, which is a simple result of this learning is the phoneticsunit and in other words that phonological analysis and its dealing with the alphabet system leads to the development of this skill that makes the researchers say that analyzing speech into phonetics units does not spontaneously developed (Casalis, 1995, p. 97).

This is illustrated by the study "Al égria.J" and "Morais.J" 1979, which was conducted on children of the same age (six years and ten months) to compare the performances among them who had experiences in learning to read, so they were divided into two groups: the first group Learning to read began since three months, and the second cohort since ten months, and they were tested on tasks: segmentation (for example, the examiner says the word and the child must repeat the same word by deleting the first sound), and the task of integration (for example: to say the word "sael" (سائل)) And the child has to add the sound (r) and become "rsael" (ر سائل), and the results at the end indicated the clear effect of learning to read to have high performances semantically in both tasks (Casalis, 1995, p. 90).

And another experience shows that phonetics awareness is the result of learning to read, and we find the authors "Alegria" and "Morais" suggested that students of the first and the second primary stage yearshave to add a specific sound at the beginning of the word or by removing the first sound in the first year and at the beginning of the school year, it was found that success rates estimated at 16% (addition) and 26% (Removing). In the middle of the year they were 34% and 64%, and at the beginning of the second year the proportions for addition were 74% and for removing 79%, this indicates the effect of the activity of learning to read and interact on the written results of the tests.

And it can be said that the performance of this type of task is sensitive to the effect of the teachers who teach reading, which confirms many previous studies (Combert, 1990, p. 39).

Thus, phonological awareness is first to recognize the existence of this abstract unit, this presence leads to a degree of interpretative awareness. First among each speaker of a pronounced language, and in other research (Content, Le Cocq) indicated that "training in phonological awareness includes an organized application oral exercises that make child who is unable to read progress very quickly and that encourages learning to read (Le Cocq & Pierre, 1992, p. 80).

Phonological awareness does not really develop except in its relationship with learning to read as it gives the capabilities of segmental analysis a specific function before reading and according to the results of the study indicate that the predictive effect of phonological efficiency is weak before learning to read while it becomes strong when children start learning to read, especially from a non-method Convenient, this means that children do not learn in one way, but by using many methods that allow them to learn many things such as the comprehensive method, the audio method, the syntactic method, the analytical method, which allows them to form different knowledge about reading learning techniques, reading comprehensive words, decoding sounds, reading a word and then segmental sections into various phonological units so that it can clearly control it in order to do the relationship between oral and written language (Fayol et Combert, 1992, p. 213).

References

Abdat, Rouhi (2008). Reading Skills among Students with Hearing Impairment.

Abdel-Qader, Farah et al. Lexicon of Psychology and Psychoanalysis. DarAlnahdaAlarabia, Beirut.

- Al-Hassan, Hisham (2000). *Methods of Teaching Children to Read and Write*. Dar Al-Thaqafa, Amman, Jordan.
- Allegria et Coll (1995). Lire, écrire et compter aujourd'hui. Editions E.S.F.
- Awartani Taibi, Sanaa, Al-Sartawi, Abdulaziz, Muhammad Al-GhazouEmad, Mansour Nazem (2009). An Introduction in Reading Difficulties. Wael Publishing House, Amman, Jordan.
- Bertin, G., Retailleau, I., & Conzalez, C. (1999). Approche r éducative de la conscience phonologique d'une enfant pr ésentant une dysphasie et une dyslexie. R éducation orthophonique N °197.
- Bin Essa, H. (1980). Lectures in Psychological Linguistic. Press Office of the University, Algeria.
- Bloch, H. et al. (1999). Grand dictionnaire de la psychologie. Nouvelle édition Larousse-Bordas.

Brais, W. A. (1993). L'homme cognitif. PUF.

Bredart, S., & Rondal, J. A. (1997). L'analyse du langage chez l'enfant: les activit és méalinguistique. Margada.

Casalis, S. (1995). Lecture et dyslexie de l'enfant. Pr éss universitaire.

Comberte, J. E. (1990). Le développement méalinguistique. édition PUF

Fayol, M. et al. (1992). Psychologie cognitive de la lecture. PUF.

Fournier, S., & Monjause, C. (2000). La Ménoire de travail. R éducation orthophonique N 201.

- Issoufaly, M., & Primot, B. (1999). *mat ériel d'entrainement de la comp étence m éta-phonologique*. r ééducation orthophonique N °197
- Le Cocq. Pierre (1991). Apprentissage de la lecture et dyslexie. édition margada.
- Marie-Odile R éthor é et al. (2006). Guide à l'usage des familles et de leur entourage trisomie 21. Bash édition m édicale.
- Mialaret, G. (1975). L'apprentissage de la lecture. PUF.

Mihouby, S. (2000). The Phoneme and Structure of the Word. Humanities Journal No. 14.

- Rondal, J. A., & Lambert, J. L. (1982). Le Mongolisme. Pierre Margada, 4 éme édition.
- Salima, Hamidouche (2003). A study of phonological awareness within the activity of learning to read among children who can read well from the fourth year. A note for obtaining a master's degree in the specialty of Artifonia.

Santos, R. (1999). La conscience phonologique: rflexion. revue Glossa N 69.

- Sindirian, L. (1992). L'analyse segmentale de la parole et apprentissage de la lecture chez des *à* èves de *C.P, CE1, CE2*. Revue française p édagogique.
- Sprenger-Charolles, L., & Casalis, S. (1996). Lire, lecture et écriture: acquisition et troubles du développement. PUF.
- Tauenat, Ali (1992). *Difficulties in learning Arabic at stage 3 of basic education*. PhD thesis, Algerian University Press.
- Van hout, A., & Estienne, F. R. (1998). Les dyslexie, écrire; évaluer expliquer et traiter.
- Zorman, M. (1999). Evaluation de la conscience phonologique et entrainement des capacit és phonologique en grand section maternelle. R ééducation orthophonique N °197.