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The Relation Between Cognitive Chunking Model, Semantic Networks Theory and the Cognitive Slow Learning

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Abstract

This study is an attempt to investigate the effect of the repetition method on the cognitive chunking to create semantic networks and the relation between them, and how can this reflect on enhancing slow learners' abilities. The cognitive chunking model depends on Miller's (1956) , while the semantic networks model for analysis the linguistic units relies on Traxler (2012) who basically depends on the work of (Collins & Loftus, 1975; Collins & Quillian, 1972; Rips, Shoben & Smith, 1973; Smith, Shoben, & Rips, 1974) who deal with linguistic texts from an artificial intelligence point of view. The previous models have been used because they are closely related to the processes of storage, production and mental retrieval of conceptual data that comes from the inputs. This will help us to understand how repetition can participate in creating language units that can be activated to create other linguistic units. To achieve the aim of the study, two types of procedures have been followed: theoretical and practical. The theoretical part consists of presenting a brief theoretical framework of cognitive chunking according to Miller (1956), and the semantic network model relies on Traxler (2012) who basically depends on the work of (Collins & Loftus, 1975; Collins & Quillian, 1972; Rips, Shoben & Smith, 1973; Smith, Shoben, & Rips, 1974). On other hand, the paper will also give a theoretical framework for the cognitive slow learning syndrome. The practical part consists of analysing linguistic units from English for Iraq 2nd Primary Book, unit three, lesson 3(Here's my house) pages 26-27 depending on the semantic network model.

The study shows that repeatation method plays essential role in cognitive chunking and semantic networks which can clearly contribute to raising the level of learning for those who suffer from cognitive slow learning and thus increase the input sum over time. Over time this can contribute to the development of other conceptual mechanisms that depend on stored input data and, thus help to reach the threshold of knowledge and creativity explosion.

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1.Introduction

The human mind is a very fascinating organ, what we know about the world is what we store in our minds through different perception channels which turn into mental material. The processing within it depends on how we download, store and recall data in suitable special _temporal contexts when it required(Evans and Green, 2018:p5-10). Cognitive chunking has many models for different data for storing a variety of inputs on levels to facilitate its retrieval. That is why we always remember the names of persons we know, and the entities we use more frequently, such as topics of books, movies etc...(WAHAB, ABID, A., IQBAL,2014:p7-9). One of these ways of storing is chunking, many studies have shown its importance but did not address its mechanism at the level of conceptual structure. In this research paper, we will discuss how the unifying data store and use in the processes of communication and the assembly of new structures.

Conceptual studies related to the education area are still rare, although They can explain and solve a lot of problems which confront those in charge of the educational process and the recipients from various levels, especially school students. Conceptual studies are purely scientific studies that can make a revolution in the means and solutions that can help us to face the problems that associate with the education process, including slow learning between many. The study rise a number of problematic questions that require urgent replies among which are:

1-Can theories of cognitive chunking and semantic networks reveal the conceptual structuring of the learning process?

2-Do the repetition method play a role in enhancing the learning process for the slow learner?

3-Can theories of cognitive chunking and semantic networks help us to improve the level of learning for slow learners?

4- Is there a relationship between the cognitive chunking model, semantic network theory and cognitive slow learning?

The study attempts to answer the questions stated above by verifying the hypothesis that states that both chunking and the repetition method with semantic networks have a major role in slow learning. So understanding the relationship between the previous concepts can help us in solving some of these problems by seeing them in a new way that contributes to understanding educational problems with more scientific frameworks under the tent of cognitive studies.

2. Cognitive chunking and Storage: Definitions and Overviews

Cognitive storage is a metaphorical concept used to refer to how we store our knowledge about language and various experiences in the complex constructions in a

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mental 'box'(Evans, & Green, 2018 p:13) . It can also consider as the mental process of data saving as conceptual entities. This mechanism includes encoded inputs, which are distributed into three main storage domains—sensory memory, short-term memory, and long-term memory. The brain decides which piece of data will go to the storage domain. Various data will end up in the different mental domains and will be encoded through a different stage in the storage mechanism, but not all data will go through all of the same stages and way to storage (https://study.com/learn/lesson/encoding-vs-storage).

According to Evans and Green (2018,p:12) language and other perceptual inputs consists of "symbolic assemblies "that are created in various ways to do the functions. A symbolic assembly is a conventional mental linguistic unit, which means that it is a segment of language that conceptualizers can recognize and ' has contextual meaning and can be used.A conventional segment can be a significative sub-part of a word, which linguists named a morpheme for instance: anti-dis-establish, or a whole word, a string of words that 'belong' together to the same phrase or a whole sentence(ibid).

There are many and varied mechanisms for storing data in the brain that are commensurate with the type of information, the way it is used, and how to link it with other conceptual entities. These mechanisms are offset by many conceptual processes in the brain that contribute to returning, linking and creating other data from the original data that may be related to its parents or maybe a hybrid.

What concerns us in this research is a special kind of linguistic saving, according to Evans and Green (2018,p:13-14) which is called storing as **"chunks"** that can be analysed into segments but it can learn and use as whole units. This mental behaviour is used to store for larger constructions, for instance in language we have, jokes, proverbs, metaphors, etc, or any type of expression that make from more than one segment. **Chunk** units consider a type of construction entity, they are a mental way to create particular linguistic units arranged in a special order, and these units conventionally cope with a special (idiomatic) meaning or can rise to 'literal' contents. For instance, the sentence below has both idiomatic and literal

(1.1)He kicked the bucket

These types of inputs are stored as 'chunks' or single mental units, just like words. The meaning of chunk units is 'built' by unifying the individual linguistic entities that make them up.These units are characterized by the following:

1- They follow form_meaning in their constructions.

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2- They have special grammatical patterns if the patterns change the whole content will change.
3-The constructions have particular word order.
4-The constructions have particular grammatical forms, so the meaning in the passive form will differ from the active one.

2.1 Linguistic Chunking

Evans and Green (2018,p:13) suggest that 'chunks' are constructions units, just like words. The meanings of the linguistic unit of chunks are 'built' by uniting the individual entities that make them .Figure(1) clarifies this phenomenon .

There is a strong connection between the chunking process, and repetition with long- and short-term memory, Which may have a clear impact on the learning process in the long term. One of the most important hypotheses that dealt with this subject and were harnessed in many educational fields, including learning mathematics, quantities, etc., was explained by Miller(1956).

The chunking hypothesis (Miller, 1956) suggests that ,repeated exposure to a stimulus or group of stimuli will cause it to act as a single unit, and the greater the frequency of these units will code as one chunk. The chunking postulate is, therefore, conceder as a very strong learning technique, because we are always monitoring and following patterning behaviour in our environment and we are coding those patterns increasingly into larger units as chunks of knowledge(Jones, 2012:167).

Miller (1956) in his book (The magical number seven, plus or minus two: Some limits on our capacity for processing information) suggests chunking process enhances short-term verbal memory. Miller (1956) thought that, we can increase the capacity of verbal short-term memory by increasing chunk units that can be stored in memory, rather than by increasing the number of dividual items or the amount of data. Miller considers chunking as a form of data compression. It permits more data to be stored in the available capacity. The chunking process operates primarily by the redintegration of individual units(Norris and Kalm, 2021:208). Chunk constructions have an essential feature that they exist in long-term memory domains, and help the corresponding entities in short-term memory to be reconstructed(ibid).

Norris and Kalm(2021) in turn think that memory capacity needs both data in short-term memory and the underlying representational vocabulary within a long-term memory system. Chunking will help the learner to get rid of the limitations on the representations in the domain of verbal short-term memory and will allow the data capacity within short-term memory domains to be exploited more efficiently (ibid).

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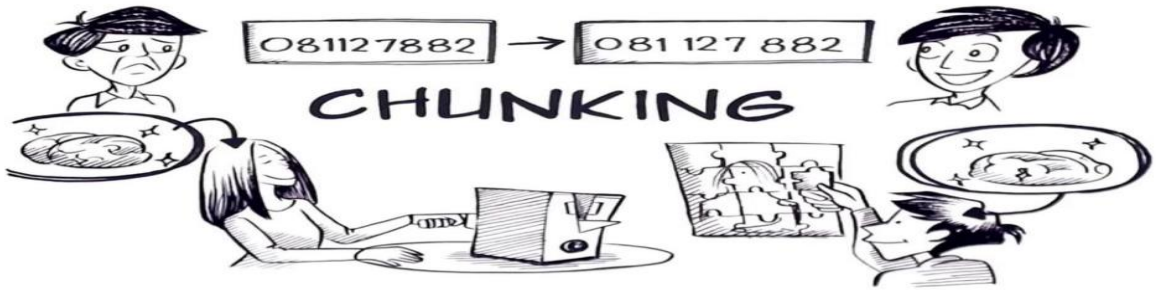

***Figure** (1) Chunking Learning Technique for Better Memory and Understanding (https://sproutsschools.com/chunking-for-better-memory)*

2.2 Vocabulary in the Scope of Chunking

One of the learning language forms is vocabulary, knowing vocabulary is essential,since fluency in language needs to have a good stock of vocabulary. Fluency involves adding to what is already known since learning is a cumulated skill.

Continuous storage operations by memorizing the lingusic units will help to provide a database that will contribute to learning the language. What is previously stored will become familiar, so that those units can be harnessed in the process of learning and use in the future.Schmitt(2013:41-45) argues about the previous idea and adds that since we can't involve activities with unknown vocabulary, fluency enhances activities that do not usually focus specifically on vocabulary or grammar, but the goal is at the fluency of four skills. According to Nation and Meara (2013, 44-62). There are two major approaches to fluency evolution:

1-The way depends essentially on repetition which is named 'the well-beaten path approach' to fluency. This approach relies on repeated practice on the same material so that can get fluently. It has activities like

2-Repeated reading by 4/3/2 the technique (in this technique where learners speak for 4 minutes, then 3 minutes, then2 minutes about the same theme to different learners).

3-The best recording (where the learners select their best-spoken version).- Rehearsed talks .

5-The other approach to improving fluency depends on making many links and allies with familiar items. This could be called 'the richness approach' to fluency. The approach embraces using linguistic entities in a wide range variety of contexts and situations .

The goal and gains of these methods are to develop a well-ordered system of vocabulary. Fluency can then emerge as a result of cumulated learning, the learner after that will

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be controlled by the system of the language and can use a diversity of efficient, well-connected and well-practised paths to the wanted item.This is one of the main aims of language learning. The previous approaches deal with individual units, but they are applicable to learning formulaic sequences. Most learning of such types of sequences can emerge through extensive meaning-focused language use rather than deliberate study(ibid).

Vocabulary size and frequency in the English language play a vital. Nation and Meara (2013, 49-50) argue about a strong relationship between the number of words the learners know and how well they perform in language's skills. . The basis for this agenda is a perception of the importance of the distinction between high-frequency and low-frequency linguistic units ,and of the strands and strategies that help us to deal with these words.

2.3 Chunks of linguistic units

As we mentioned earlier, some mental forms of storage are in the form of chunks, and these units consist of two groups of linguistic entities, one content and the other functional entities. Functional groups are characterized by being limited in number and playing the role of linguistic links between content units, which in turn are characterized by their large numbers and contribute to the transfer of meaning and this is the reason why we focus here on them (Corver and Riemsdijk,2013:1-2).

Bauer and Nation (1993:253-279) believe that as receivers become more proficient, the number of entities in their word families will also tend to rise continually,which leads to increase their productive knowledge as in speaking or writing.We must bear in mind that the brain stores all inputs, regardless of the method of input.

There are some sets of constructions, such as *"good morning and at the end of the day"*, which sound to be used as single words which cannot be analysed into parts but are just learned, stored and used as whole units. Some of these are constructions and formed by known individual linguistic entities that can be separated but are used so often that users tend to treat them as a single unit. Pawley and Syder (1983:551-579) argue that native speakers speak fluently with the ability to express themselves easily and articulately, back to they store a great number of these *formulaic language* elements, which they can retrieve when put in a communication situation .

Schmitt(2013,p:35) lists under the "formulaic language" number of constructions include:

•Preformulated language' (consisting of multi-word units treats as one 'ready to go'.

•Formulas (which result from repetition instead of generating new ways).

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•Lexical phrases (Once upon a time) which use to create scenes or frames.
• Formulaic sequences or multi-word items for instance *good morning and at the end of the day* .

Formulaic language from a learning poin t of view, it is useful to classify into three .major classes (Grant and Nation, 2006:1-14)as below .

1-Core idioms: which each word has differ meaning from whole sor instance, of course, such and such,there are over 100 such items in English.
2-Figuratives: which have *a literal and a figurative content* ,as, "We have to make sure we are singing from the same hymn sheet."
3- Literals: They are formulaic sequences where each part's content makes up the meaning of the sequens.For instance you know, I think, thank you, in fact. Collocations are part of literals.

The core idioms expressions need to be learnt as one unit, in spite of a large number of them can have a changeable form. On the other hand, we need to learn *figurative units* with a strategy that involves relating the figurative content to the literal meaning. Finally, *Literals* may be usefully memorized as a way of rising fluency of access and gaining native-like accuracy(ibid).

Schmitt(2013:36) argues that what vocabulary needs to focus on in learning should be governed by two main considerations:

1- The needs of the learners.
2-The usefulness of the vocabulary items.

But we should put in our mind that:

•The very large group of vocabulary ,some of them occurring many times, others we need rarely.
•There is a relatively small group of language units needed to cover a very large area of a text.
• The very large group has low-frequency units that use for a very small area of the a text.

3.The Semantic Network Theory

The role of words in the language is to convey meaning between the speaker and listener. The way of accomplishing this submits to many hypotheses. One of these hypotheses is the net notion, So, for instance, the word cat maps onto all data about generic form and function. When we hear this word we stimulate to activate all the menta nets that have the data that cats have fur and belong to mammals, they also are kept as pets and so. This mental network activity emerges with the most inputs. The meaning on the other hand

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emerg by context depending on what the words point to—what they refer to(Traxler, 2011:879-85)..

The previous approach called the Semantic network theory which suggests by a number of scientists (Collins & Loftus, 1975; Collins & Quillian, 1972; see also Rips, Shoben & Smith, 1973 ;Smith, Shoben, & Rips, 1974) this theory relies on artificial intelligence approaches to semantics. The aim of the semantic network approach is to elucidate how word meanings are constructed in the mental lexicon and to show certain schemes for storing linguistic entities in the coding process(ibid).

According Traxler(2011:879-85)to Semantic network theory suggests that all linguistic entities are symbolised by a set of nodes and the links between them (as in Figure1.1). The nodes of networks are concepts that contain the content, while the links on other hand represent a kind of relationship that linked concepts. For instance, the concept of goose would be represented as (a node) in a mantel network and linked to other nods in memory by different kinds of links depending on the type of relation and meaning that want to deliver.The links within the semantic network consist of

1-Link “is a”, this link encodes relationships between general sets and the concepts within the same category.

2-The link 'can", these types of links connect the concepts represented by nodes in conceptual networks with their capabilities.

We must bear in mind that these links can activate other links in the network chains, for instance, "A canary can fly " can be activated by " canary is a bird". Which includes the general type, the relationship to nature, the colours of the canary, the type, the environment, the food, etc., and any other stored information related to the canary bird .

3-The link "has" which link nods to the properties and attributes of individual concepts.

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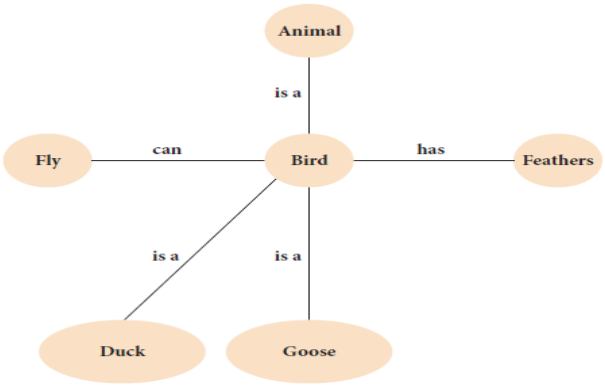

Figure (2) Schema of a semantic network relations between nodes and links (Traxler, 2011:83).

This activation spreads rapidly and designs connections to being, ability, and possession as well.Spreading activation has two essential features(ibid:84) :

a-It is automatic. It activates very fast and out of control.

b-It diminishes whenever got away from the original activation centre

Figure (3) shows the semantic network. Traxler(2011:97-98) coined the notion of lexical access as It is the process of accessing the conceptual inventory of the desired concept and its mental representation after the stimulation process by any input from the five senses. The input will lead to the activation of semantic net data. In lexical access models, we typically deal with the scope of activation of linguistic entities(word-meaning pairs) from data.

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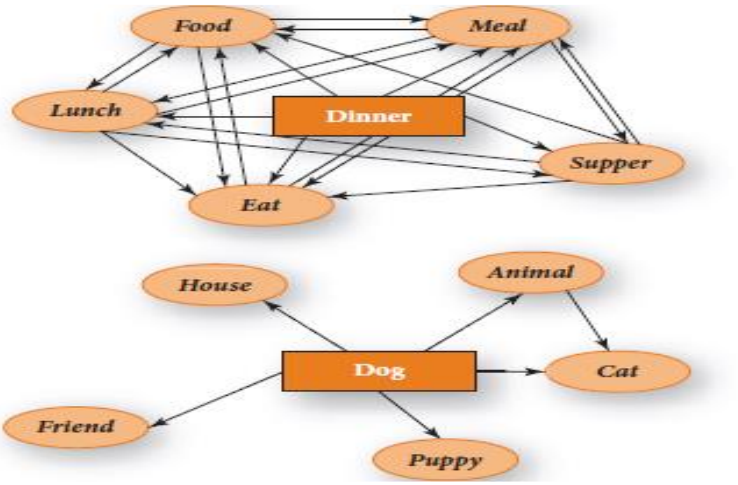

Figure (3) Connectivity for dinner and dog (from Nelson et al., 1993, p. 748)

4.Forgetting and Relearning

As debated above, the level of learning and acquisition of linguistic knowledge is pivotal in output and perception. Laziness in using language will affect the level of activation of the mental linguistic networks of knowledge of the language and lead to decreases, till in turn lead to the loss of knowledge. An important point of teaching especially for foreign languages is how we can reactivate such knowledge again by using our knowledge of the production and perception of language (de Bot and Kroll, 2010: 124-142).

The general assumes that words can be forgotten completely, but de Bot and Stoessel (2000:333-353) argue depending on a number of experiments on the reactivation of language skills. In those studies, they assume that through learning language words, once learned, are never really lost in memory and that even for words that cannot be remembered their ghost remains standing.

For both production and perception of language, there are two main factors that determine the accessibility of linguistic entities in the mental level (Schmitt,2013:137-138):

1-The input data must have been acquired and stored.

2-The input data must be accessible in time.

3-On the proximity and frequency of data storage due to use.

The processing of production and perception are so fast and data that is not easily available will hamper the processing of input and output data .Speed of processing has a critical role in learning. Jan Hulstijn and his colleagues focus on this side of the

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relationship between the speed of processing and reading skills and they argue about the relation of speeded processes has a positive effect on language skills(de Bot, 2000).

5.Slow Learning : Definitions and Overviews

The general definition of slow learning can be formulated as follows "A Slow Learner is a child of below average intelligence whose thinking skills and scholastic performance have developed significantly more Slowly than the pace of his or her age"(https://schooledn.py.gov.in). Slow learners are often few or rare in society and sometimes this is due to the poor diagnosis of their cases.

Slow learners need special attention because they are weak in compulsory school subjects and tend to do not plan for any kind of success. Slow learners suffer from lack competency of abstract and symbolic materials and other that need logic reasoning questions, complicated games numbers, and difficult tests or assignments of school(Parveen, et al ,2014:27).

Burt (1937:45-90) has argues that the term slow learner refers to those students who are incapable to cop with other peers under the same conditions as compared to the normal students in the same class . The teacher face great difficulties, when they are expected to give the same rate and perform as others bright pupils do. As Burt argues ,the teachers need to give more effort and time to them or using some modifications in the mothed or programm of teaching.Teachers need to be more slow and repeat the subject to ccommodate these students in their classrooms.

5.1Cognitive Learning Problems of slow learning

Relying on Willard Abraham (1964) some slow learners' characteristics are:

i. Limit attention and low interest span.
ii. Need more for reaction time.
ii. Show apathy and diffidence toward learning.
iv. Suffer from academic retardation, essentially in reading,add to that they also show lagging achievement compare with their chronological age.
v . Suffer from low ability of retention and memory.
vi. Abstract thinking and evaluate results are not their strong point .

Teachers who work with this group of learners face a great challenge because they need to create and enhance special strategic plans in order to cover the syllabus within the given time period.Parveen et al (2014:30-35) depend on Muppudathi(2014) and suggests

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a group of roles for teachers who deal with slow learners that could be helped us, we'll go over some of them below:

i.Find out the reasons behind the Learner's weaknesses in their performance to put plans and find areas where the slow learners need guidance to enhance their performance.

ii. Giving more care and practice we should give to slow learners compared with their peers. The teachers should manage more classes with simple ways for helping them in order to learn them in a very easy and simple way .

iii. Use special programs to cope with their needs as audio-visual aids, displays, graphics, special books, online items and worksheets must be created for these slow learners to enhance their learning.

iv. The teacher should maintain cumulative learners' records to measure their progress and they change the method whenever they need to.

v.Repetition is an essential element in helping slow learners. They can easily grasp any notion when it is repeated again and again.

vi.Encouraging oral expression method instead of writing, because they do not take interest in written tasks which associate with writing errors and led them to feel frustrated.

6.Methodology

6.1The Adopted Models

The model adopted in this paper is the semantic network model relies on Traxler (2012) who basically depends on the work of (Collins & Loftus, 1975; Collins & Quillian, 1972; Rips, Shoben & Smith, 1973; Smith, Shoben, & Rips, 1974). This model will be used to apply the notion of cognitive chunking by Miller (1956). The model is originally proposed for artificial intelligence, but in this study, it will be used for processing linguistic texts from English for Iraq 2nd Primary Book, unit three, lesson 3(Here's my house) pages 26-27 depending on the semantic networks model.

6.2 Method of Analysis

The selected linguistic texts from (English for Iraq 2nd Primary Book, unit three, lesson 3(Here's my house) pages 26-27)will be analyzed by semantic networks mode to show how repetition and chunking are played the main role in learning mechanisms.

6.3About the Sample

The selected linguistic texts were taken from (English for Iraq 2nd Primary Book, unit three, lesson 3(Here's my house) pages 26-27). The book provides instances of the natural environment of Iraq and interest in the country's cultural, social and moral values on both a national and local scale which is easy and suitable for primary students.

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6.4 Analysis of linguistic texts through chunking and semantic networks

The topic of lesson (3) as Figure(4) shows , focuses on the concept of place. The title is (Here is my house), The writer used two ways to convey the notion of the theme one of them by using linguistic entities which indicate the notion of place including:
1- Question's word about places(where).
2-Linguistic entities that indicate place for instance(the bedroom, the bathroom...etc.).
3-Prepositions which indicate place as(in, on, under).

The second element in the lesson is visual elements which are very useful essentially for students in general and the slow learner particularly.The lesson uses two techniques: the first one is repetition while the other is audio-visual notions . The two notions emerges by listening and saying elements followed by asking and answering techniques . The adopted techniques create a type of frequent repetition which lead to mental chunking the most frequent linguistic structures which turn them into formulas language which results from repetition behaviour unconsciouslly .

The repetition of data will cause chunking them and organized into increasingly larger chunk units. This method will improve learning phenomena and make it easier as Jones (2012) proves on the non-word entities over time and will lead to enhanced short-term verbal memory capacity and processing speed and in turn, the conceptual structure of long-term memory as Norris and Kalm(2021)argues.

The downloaded linguistic chunks' data that come from the input will be preserved in the form of conceptual structures and in other several forms, including semantic networks, which in turn will contribute to the creation of other linguistic structures. This will increase linguistic storage and generate new forms from the same linguistic data, since language is an entity with limited units,but it has the capacity of generating an infinite amount of other linguistic units by virtue of a variety of brain mechanisms. According to Saeed(2016:-10)" the mental lexicon is a large but finite body of knowledge, part of which must be semantic".The mental lexicon has a "recursive" nature that allows repetitive embedding or coordination of syntactic categories. One of the essential mechanisms here is semantic networks.

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Figure(4) indicates Lesson 3 from English for Iraq 2nd Primary Book, unit three (Here's my house) on pages(26-27)

Lesson 3 from English for Iraq 2nd Primary Book, unit three (Here's my house) on pages(26-27) on the linguistic level consists of words that are used to indicate asking about the place by using (inanimate, animate) entities as follows:

Table (1) Shows words that are used to indicate asking about the place by using (inanimate, animate) entities

Here is my house	where is(the)	In the+	It is +	where are the+
	Deena **Hadi** **Kareem** **Ball** **cake** **kite**	**dining room** **bedroom** **bathroom** **sitting room** **kitchen** **garden**	**under**	**grapes** **chairs**

There will be two types of semantic networks in this lesson,the first networks are purely semantic, built on the basis of semantic relationships or collocations, as follows figure(5) shows :

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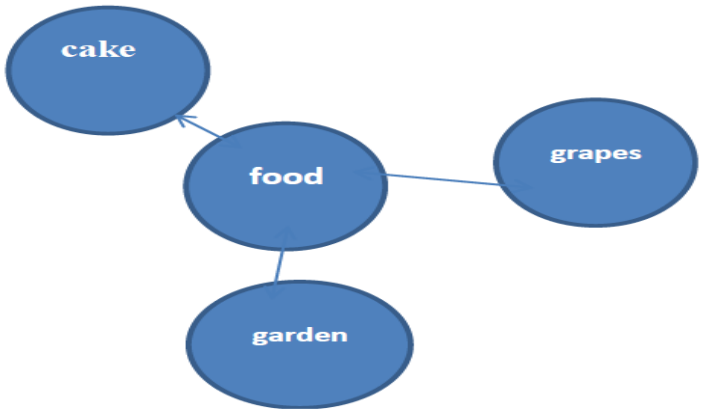

Figure (5) Shows semantic networks and the collocations relationships

The second type of relations that emerge within this linguistic text as Figures(6,7)clarify ; is relations between nodes and links. The nodes of networks here represent by the concepts of place (house, dining room, bedroom, bathroom, sitting room, kitchen and garden).On other hand ,the concepts of nouns(Deena, Hadi, Kareem, Ball, cake, grapes chairs and kites).Both types of concepts have a relation with the place's notion in the lesson and they are linked by a group of links which are auxiliary verbs ("is, are the " and has,) that build the relationship between concepts depending on the meaning that needs to convey. The second type of links are the directional links that represent by prepositions(under, on, and in) that link the concepts with theirs places .

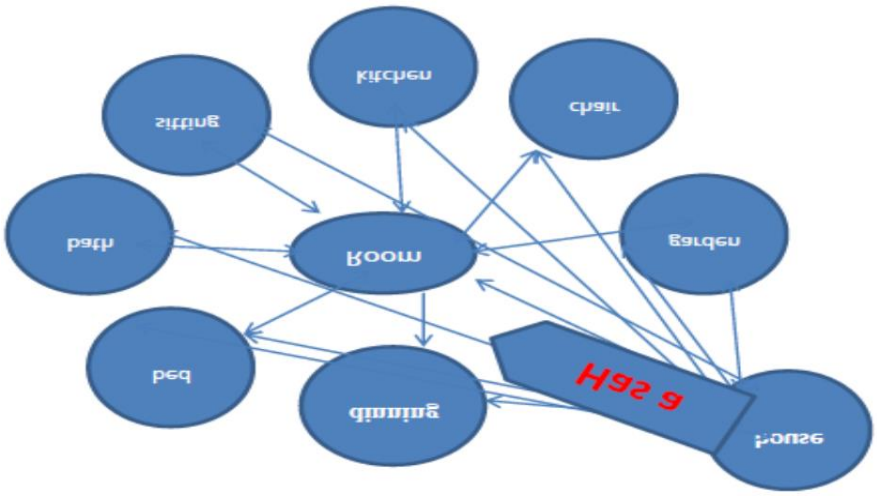

Figure (6) Shows the relationship between nodes(concepts) that connect by each other through collocation relation and (has)link

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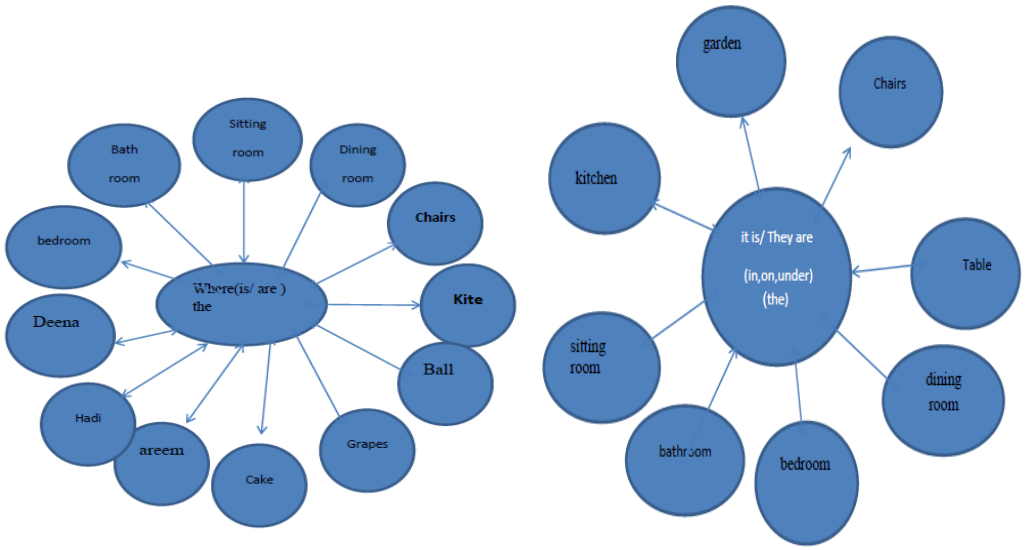

Figures (7)Shows the relationship between nodes(concepts) by link(is, are (the))

Through the analysis, we can note there are a group of chunking units that emerge in the text as a result of the repetition technique which forms a set of formulas language beside the formulaic sequences or multi-word items which are existing already as the following:

- **Where is(the)**
- **Where are(the)**
- **It is (In/on /under the)**
- **Dining room**
- **Bedroom**
- **Bathroom**
- **Sitting room**
- **Kitchen room**

House has (dining room/bedroom/bathroom/sitting room/kitchen/garden)

Formulas language, formulaic sequences and other multi-word items will be easier to remember by slow learners due to their participation in decreasing the number of linguistic units since the given formulas language will be dealt with as one unit. However, these units will also be treated as separate units at the level of conceptual structures, as indicated by the semantic networks that we explained earlier. This, in turn, will enhance the store of linguistic data for the learner in general and the slow learner in particular, which will increase their linguistic productivity in future.

6.5 Discussing the Results of Analysing the Selected Text

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The study has offered two cognitive models (the cognitive chunking model and the semantic networks theory)and has shown their structures overlapping at the under-conceptual level with their effect on production processes.

The results of the analysis the text show the importance of using the repetition method which is considered one of the old teaching methods but shows its importance in enhancing the level of learning in general and for slow learners in particular. Repetition involves in creating different formulas languages that are stored as single units. This contributes to the speed of remembering them because they will be stored in the closest point to access. As a result, this will enhance short and long-term memory, which will contribute to increasing the conceptual faculty and creativity among slow learners .

The study also showed the importance of conceptual studies to study educational problems, and it can help us in evaluating methods of teaching. It may also offer us new perspectives and solutions from other fields as artificially intelligent.

From the foregoing, we can see that there is a close relationship between the cognitive chunking model, semantic network theory and cognitive slow learning. The data that is stored as a chunk could take different forms as metaphorical, literal or both forms, which at the same time will be analyzed and distributed in the form of data depending on their semantic family and use. Our focus on linguistic vocabulary is due to the fact that it contains semantic content compared to the functional units which act as links that build and link semantic structures in which practice and repetition play a major role within it.

7.Conclusions

The findings of the study lead to the following conclusions:

1-Chunking under the umbrella of repetition works on speeding up and improves long and short-term memory.

2- Repetition creates a different type of formulas language that involves in creation of semantic networks that, in turn, contribute to the creation of other linguistic compounds.

3-Semantic networks models contribute to and assist us in understanding the mechanism of memorizing and creating new conceptual compounds.

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4-Linguistic development depends on what is saved, not on what is novel. Add to that, vocabulary size plays a major role in our language enhancement .

5-We can find slow learners in almost every class, yet in light of the revolution of development of educational methods and their rejection of the old methods, including repetition, the educational institution neglects the category of students who are slow to learn, which causes a clear bias that does not benefit or supporting them

.

6- The educational institution should put the subject of slow learners on the table of the cognitive enterprise. This will show the relationship between understanding the problem and coming up with scientific finds results .

7-Cognitive results can explain to us the relationship between the cognitive models and the problem of slow learning, and how a traditional method that may be unpopular at the present time can be harnessed to solve this syndrome after grasping the importance of the method from a cognitive point of view.

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العلاقة بين أنموذج التقطيع المعرفي ونظرية الشبكات الدلالية وبطء التعلم

الملخص :

هذه الدراسة هي محاولة لاستقصاء تأثير طريقة التكرار على التقطيع المعرفي للنصوص وعلاقته بشبكات دلالية ، وكيف يمكن أن ينعكس ذلك على تعزيز قدرات المتعلمين البطيئين. يعتمد نموذج التقسيم المعرفي على Miller's (1956) ، بينما يعتمد نموذج الشبكات الدلالية لتحليل الوحدات اللغوية على Traxler (2012) الذي يعتمد أساسًا على عمل كل من (Collins & Loftus، 1975 ؛ Collins & Quillian، 1972 ، Rips ، Shoben & Smith ، 1973 ؛ Smith ، Shoben ، & Rips، 1974) الذين يتعاملون مع النصوص اللغوية من وجهة نظر الذكاء الاصطناعي. تم استخدام النماذج السابقة لأنها ترتبط ارتباطًا وثيقًا بعمليات التخزين والإنتاج والاسترجاع الذهني للبيانات المفاهيمية التي تأتي من المدخلات. سيساعدنا هذا بدوره على فهم كيفية مشاركة التكرار في إنشاء وحدات لغوية يمكن تنشيطها لإنشاء وحدات لغوية أخرى.ولتحقيق هدف الدراسة تم اتباع نوعين من الإجراءات: نظري وعملي. يتكون الجزء النظري من تقديم إطار نظري موجزلتقطيع المعرفي وفقًا لميلر (1956) ، ويعتمد نموذج الشبكة الدلالية على Traxler (2012) الذي يعتمد بشكل أساسي على عمل (Collins & Loftus، 1975؛ Collins & Quillian، 1972) ؛ Rips ، Shoben & Smith ، 1973 ؛ Smith ، Shoben ، & Rips، 1974). من ناحية أخرى ، ستقدم الورقة أيضًا إطارًا نظريًا لمتلازمة التعلم البطيء المعرفي. يتكون الجزء العملي من تحليل وحدات اللغوية من كتاب اللغة الإنجليزية للعراق الثاني الابتدائي ، الوحدة الثالثة ، الدرس 3 (هنا منزلي) الصفحات 26-27 ولاعتمادًا على نموذج الشبكة الدلالية.

أظهرت الدراسة أن طريقة التكرار تلعب دورًا أساسيًا في التقطيع المعرفي والشبكات الدلالية وبتالي يمكن أن يسهم بشكل واضح في رفع مستوى التعلم لأولئك الذين يعانون من التعلم المعرفي البطيء وبالتالي زيادة مجموع المدخلات بمرور الوقت. اسلوب التكرار يمكن أن يساهم في تطوير آليات مفاهيمية أخرى تعتمد على بيانات المدخلة و المخزنة ، وبالتالي سايساهم في الوصول إلى عتبة انفجار المعرفة والإبداع..

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الكلمات المفتاحية : نموذج التقطيع المعرفي ، الشبكات الدلالية ، التعلم البطيء .

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