



## A Cognitive Semantic Analysis of the Preposition *at*

Ms. Rana Hameed Al-Bahrani  
missranah@yahoo.co.uk

Asst. Prof. Maysaa Rashid Al-Rubaye  
mra\_memo@yahoo.co.uk

University of Baghdad/College of Education for Women

### Abstract

The present work is a pre-step toward large scale research. It aims at achieving two objectives: **First**, developing a cognitive diagram that covers the semantic range of the preposition *at*; **second**, examining EFL learners' semantic range on the preposition *at* within three broad categories: sentences, expressions and phrasal verbs. Accordingly, the researchers designed a test that covers the overall usages of the preposition *at*. Such a test helps examining the different cognitive domains of *at* and analyzing qualitatively and quantitatively the subjects' answers. The model that is used in the analysis of the first objective is Domain Highlighting by William Croft (1993). The main conclusions arrived at are: First, the cognitive theories can be applied to many language-related studies. The model used for instance managed to provide a miniature image to the different usages of the preposition *at*. Second, the diagram provided cognitively might help EFL learners recall the various semantic domains of the preposition *at*. Third, the subjects have a high lack of knowledge regarding the semantics of the preposition *at* in sentences, expressions and phrasal verbs. Fourth, the subjects' wrong choice of prepositions might be attributed to the semantic overlapping between the correct and incorrect ones; lack of knowledge, or to the limited frequency of usage;

**Key words:** *preposition at, domain highlighting, matrix domain, sub-domains.*

### Introduction

Shepherd, et. al (1990, 258) define preposition as a term that reflects the "relationship between persons, things, etc., and other persons, things, places, times, etc. Celce-Murica et. al (1999, 401) describe prepositions as being 'notoriously difficult to learn'. They further add that prepositions represent a source of difficulty to professional native speakers, let alone to ESL/EFL



learners of English. This is because the meaning of such 'little' words is context-dependent and polysemous. They (p. 402) also state that prepositions are 'free morphemes' that can occur either before or after nouns. Trask (2007, 228) defines prepositions as 'the smallish class of words' that could be compound to noun phrases. Moreover, he states that cognitively speaking, prepositions are analyzed in terms of physical and spatial image schemas. Crystal (2008, 383) maintains that the term is used in the grammatical classification of words. He adds that prepositions can precede or follow certain types of words, such as noun phrases, adjectives or verbs. They can be described in terms of 'distribution' or their position in a given linguistic environment as prepositions or postpositions; the latter is a 'particle' that comes after the noun phrase. Or, they can be described semantically using concepts like direction, place, possession, etc. Finally, Crystal adds that the term preposition can be abbreviated to (P, prep, or PREP).

Various studies have been conducted on prepositions; Driven (1993, 76; cited in Celce-Murica et. al; 1999, 407), for instance, categorized the usages of *at* into the following categories:

Point as place: **at the station**;  
Time point: **at six o'clock**;  
State: **at work**;  
Area: **good at guessing**;  
Manner: **at full speed**;  
Circumstance: **at these words (he left)**; and;  
Cause: **laugh at, irritation at**

Hudson (1997; cited in Celce-Murica et. al; 1999, 407-08) researched the usages of the preposition *at*. He took (305) idioms and submitted them to (20) subjects, asking them to relate the meaning of the preposition *at* to one of the (9) patterns given below:

an object in space, as in: (The paper was lying **at my feet**);  
an object in time, as in: (he was here **at one O'clock**);  
a state, condition, or engagement in a particular activity, as in (I am never **at ease when taking a test**);  
a cause or a source of an action or state, as in: (**She wept at the bad news**);  
direction toward a goal or objective, as in: (**The man over there is pointing at us**);  
skill (or lack of it) in relation to a particular activity or occupation, as in: (**She's a whiz at poker**);  
relative amount, degree, rate, value, ordinal relationship, or position on a scale, as in: (**He retired at 56**);  
not related to any of the patterns above; and  
I do not understand or use this expression.

The main finding of the study was that ESL/EFL learners are not expected to know all usages of prepositions. He justified this result, saying that not all usages of a given preposition are of equal significance, and this is in return depends on the frequency of a given usage.

Due to the importance and difficulty of prepositions in general, the current paper will be dedicated to answer the following research questions: **What is the cognitive semantic diagram of the preposition at? And to what is EFL learners' semantic range on the preposition at?** To answer these two questions, the researchers designed a test that consists of (65) items, covering the overall usages of the preposition *at*. The items are collected from two sources: Murphy (1994) and Yates (1999). Besides, the items appear in three broad categories: sentences, expressions and phrasal verbs.

Speaking of the cognitive model used in achieving the first objective, it is *Domain Highlighting* by Croft (1993; cited in Evans, 2007). The model involves creating (a) conceptual image(s) to a given lexis. Accordingly, the different concepts highlighted in the mind will represent different domains of analysis. The general meanings of the preposition in question will be put under the Matrix domain whereas the specific meanings of it will be grouped within the sub-domains. Some of the categories used in the classification of the usages of the preposition *at* are adopted from Yates (1999) while the rest are the researchers'. For instance, the categories: (*condition, degree in value, degree of*

*skill, level of age or distance, place, point in place, price, rate/ level, reaction, specific time, time, unit of measurement*) all belong to Yates (1999). The researchers will adopt these categories; in addition to others derived according to the usage, and adapt and/or re-classify the overall usages in a different way. That is, some of the concepts are adopted from Yates, yet, they are categorized under different headings using variables from the cognitive model adopted, Matrix Domain and Sub-Domain.

## The Methodology

### Test Construction

The researchers have constructed a test on March, 1<sup>st</sup> and 2<sup>nd</sup> 2017 about the different usages of the preposition *AT*. The test designed consists of (65) items that generally involve (72) blanks covering the different usages of the preposition *at*. The type of the selected items range between sentences, expressions, and phrasal verbs; the total number of expressions reach (21) out of (72). That is because not all usages involve fixed expressions. All items of the test were put under one question; the question involves choosing the suitable preposition when needed. Consider Table (1) where the **expressions are put in red**, the **normal sentences (45) are left black**, the phrasal verbs (5) are put in blue, and the zero preposition item (1) is written in green, but is regarded within the normal sentences.

**Table (1): Categorizing the Selected Items by Type**

No.	Sentence Items
1.	If the sky is clear, you can see the stars <b>at night</b> .
2.	It is difficult to listen if everyone is speaking <b>at the same time</b> .
3.	<b>What time</b> do you usually go to school?
4.	The weather will be nice <b>at the weekends</b> .
5.	The students had a party <b>at the end of the course</b> .
6.	Are you going away <b>at the beginning of August</b> ?
7.	Kindly write your name <b>at the top of the page</b> .
8.	Turn left <b>at the traffic lights</b> , you will see someone waiting <b>at the roundabout</b> .
9.	My house is <b>at the end of the street</b> .
10.	Leave the key <b>at the reception</b> .
11.	There is somebody <b>at the door</b> .
12.	He spent most of the day <b>sitting at</b> and looking outside.
13.	The students who were sitting <b>at the back</b> are lazy.



14.	He was standing <b>at the corner of the street.</b>
15.	There is another entrance <b>at the back of the block.</b>
16.	I will be <b>at work</b> until 3. 00 p.m.
17.	We were <b>at sea</b> for 30 days.
18.	She is studying chemistry <b>at University.</b>
19.	Do not meet me <b>at the station;</b> let it be <b>at the airport.</b>
20.	We went to a concert <b>at the Royal Palace.</b>
21.	I met him <b>at a party.</b>
22.	Wonderful topics were presented <b>at the conference.</b>
23.	I was <b>at his house</b> yesterday night.
24.	Do you think if this train stops <b>at Nottingham?</b>
25.	They <b>arrived at work at 10:00 a.m.</b>
26.	You can do the work <b>at home</b> or when you are <b>at the office.</b>
27.	We left our luggage <b>at the station.</b>
28.	We had lunch <b>at the airport.</b>
29.	The train was travelling <b>at 120 miles an hour.</b>
30.	The water boils <b>at 100 degrees</b> Celsius.
31.	He left school <b>at the age</b> of 18.
32.	He was angry that was why he shouted <b>at me</b> and threw the ashtray <b>at me.</b>
33.	That man looks weird, he was staring <b>at me.</b>
34.	He pointed that knife <b>at me</b> just to threaten me.
35.	He <b>made a pass at</b> the woman he met <b>at the party.</b>
36.	Try to learn one step <b>at a time.</b>
37.	We <b>shuddered at the thought of</b> moving again.
38.	He is <b>excited at the prospect of</b> going to South America.
39.	She felt <b>nervous at the sound of</b> rain.
40.	We discussed the topic <b>at length at our meeting.</b>
41.	He has <b>been at it</b> for four hours.
42.	He wanted to go home, but he <b>kept at it</b> until the work was finished.
43.	They have been <b>at peace</b> for ten years.
44.	He was <b>shocked at</b> the condition of the classrooms.
45.	He is <b>good at</b> chess.
46.	They made me sick <b>at heart.</b>
47.	Our professor is <b>an old hand at</b> government operations.
48.	They were selling apples <b>at sixty-nine cents a pound.</b>
49.	The plane was flying <b>at three thousand feet.</b>
50.	I tried to stay <b>at arm's length</b> from him to avoid an argument.
51.	You should here at 5 o'clock <b>at the latest.</b>
52.	<b>At best</b> she is an adequate typist.
53.	He is <b>at advantage</b> because his family has influence.
54.	He <b>looked down at the heels</b> when he was without work.
55.	I <b>was at his mercy</b> during my schooling period.



56.	You did a great job; <b>leave it at that!</b>
57.	We can go home when we are ready <b>at our own discretion.</b>
58.	He did not exactly excuse him, but we all knew what he was <b>getting at.</b>
59.	He <b>picked at</b> the scab on his knee.
60.	I usually wake up <b>at midnight</b> to drink some water.
61.	We will meet each other <b>at Christmas.</b>
62.	I do not have any work <b>at the moment.</b>
63.	We got used to do our prayers <b>at sunset.</b>
64.	<b>At present,</b> I have nothing.
65.	Let us meet <b>at lunchtime.</b>

To achieve the first objective, which reads, **developing a cognitive pattern that covers the semantic range of the preposition *at***; the following steps need to be followed:

1. Identifying the Matrix domains and sub-domains of the preposition *at* by examining the semantic meanings cognitively;
2. Mapping the relation between the Matrix domain sub-domains; and
3. Drawing the cognitive semantic diagram that covers the overall usages of the preposition *at*.

To achieve the second objective, which reads, **examining EFL learners' semantic range on the preposition *at* within three broad categories: sentences, expressions and phrasal verbs**, the following steps need to be followed:

1. Submitting the designed test to first year students, excluding the absent ones;
2. Marking the answer sheets;
3. Calculating the overall percentages obtained for each item; and
4. Comparing the final scores obtained across the three broad categories (sentences, expressions, and/or phrasal verbs).



## Population and Sample Selection

The population of the present study is first- year students from the department of English, College of Education for Women, University of Baghdad, during the academic year (2016-2017). The sample has been chosen randomly from the population mentioned above. There were (100) students distributed alphabetically into four sections (A, B, C and D). Twenty students failed to attend the test; the total number of the sample was (80). The reason behind the selection of this sample is to achieve the ultimate objective of the research, which is to examine EFL learners' semantic range on the preposition *at* within three broad categories: sentences, expressions and phrasal verbs..

## Test Validity

The test gives the concept of validity when it measures what is intended to measure (Madsen, 1983, 178). In order to ensure the face validity of this test, the test was submitted to a jury of experts<sup>1</sup> to provide the researchers with their opinions regarding test items, its validity and suitability. Then, the jurors were requested to read the questionnaire, add, delete or change the items in a accordance with the objectives of the study. The jurors all agreed upon its validity and suitability.

## Test Reliability

Reliability refers to the degree of consistency of the test scores measurement (Oller, 1979, 4). One of the methods that can be used to find out test reliability is Pearson formula; test reliability is found to be (0.84). By using Spearman Brown formula, it has been found out the test reliability is 0.91. This means that the test is acceptable and reliable.

## Data Analysis

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<sup>1</sup> Prof. Shatha K. Alsaadi (College of Education for Women/ Department of English); Asst. Prof Narmeen Mahmood (College of Education for Women/ Department of English); Asst. Prof Jinan Ahmed (College of Education for Women/ Department of English); and Instr. Shahad Hatim (Development and Continuous Education Center/ University of Baghdad)

Following the procedures set above regarding the first objective, the researchers did the process of identification and categorization of *at* usages following Croft (1993) model (consider **Table 2**).

**Table (2): The Cognitive Semantic Categorization of the Different Domains of the Preposition *AT***

Broad Categories of Items	Items of the Pre-Test	Matrix Domains	Sub-Domains
<b>Phrasal Verbs</b>	He was angry that was why he shouted <b>at me</b> and threw the ashtray <b>at me</b> .	<b>Condition</b> <b>Direction</b>	<b>Reaction</b> <b>Reaction</b>
	That man looks weird, he was staring <b>at me</b> .	<b>Direction</b>	<b>Reaction</b>
	He spent most of the day <b>sitting at</b> and looking outside.	<b>Condition</b>	<b>A state in place</b>
	He did not exactly excuse him, but we all knew what he was <b>getting at</b> .	<b>Direction</b>	<b>Reference</b>
	He <b>picked at</b> the scab on his knee.	<b>Direction</b>	<b>Outward movement</b>
<b>Expressions</b>	If the sky is clear, you can see the stars <b>at night</b> .	<b>Time</b>	<b>A specific period of the day</b>
	He <b>made a pass at</b> the woman he met <b>at the party</b> .	<b>Condition</b> <b>Place</b>	<b>Reaction</b> <b>Event</b>
	Try to learn one step <b>at a time</b> .	<b>Time</b>	<b>Recurrent periods of time</b>
	We <b>shuddered at the thought of</b> moving again.	<b>Condition</b>	<b>Reaction</b>
	He is <b>excited at the prospect of</b> going to South America.	<b>Condition</b>	<b>Reaction</b>
	She felt <b>nervous at the sound of</b> rain.	<b>Condition</b>	<b>Reaction</b>
	We discussed the topic <b>at length at our meeting</b> .	<b>Time</b>	<b>Duration</b>
	They made me sick <b>at heart</b> .	<b>Condition</b>	<b>Reaction</b>
	Our professor is <b>an old hand at</b> government operations.	<b>Time</b>	<b>State</b>
	We were <b>at sea</b> for 30 days.	<b>Place</b>	<b>At the surface with no direct contact</b>
	I tried to stay <b>at arm's length</b> from him to avoid an argument.	<b>Distance</b>	<b>Unit of measurement</b>
	You should be here at 5 o'clock <b>at the latest</b> .	<b>Condition</b>	<b>Average/degree/level</b>
	<b>At best</b> she is an adequate typist.	<b>Condition</b>	<b>Average/degree/level</b>
He is <b>at advantage</b> because his	<b>Condition</b>	<b>Average/degree/level</b>	

	family has influence.		
	He <b>looked down at the heels</b> when he was without work.	Condition	State
	I <b>was at his mercy</b> during my schooling period.	Condition	State
	You did a great job; <b>leave it at that!</b>	Condition	Average/degree/level
	We can go home when we are ready <b>at our own discretion.</b>	Time	A specific time setting
	He wanted to go home, but he <b>kept at it</b> until the work was finished.	Condition	A continuous point in sth.
	I do not have any work <b>at the moment.</b>	Time	Now
	<b>At present,</b> I have nothing.	Time	Now
Normal sentences	It is difficult to listen if everyone is speaking <b>at the same time.</b>	Time	Now
	<b>What time</b> do you usually go to school?	Time	A specific period of time
	The weather will be nice <b>at the weekends.</b>	Time	Sequential arrangement
	The students had a party <b>at the end of the course.</b>	Time	Sequential arrangement
	Are you going away <b>at the beginning of August?</b>	Time	Sequential arrangement
	Kindly write your name <b>at the top of the page.</b>	Place	A specific dimension of an area
	Turn left <b>at the traffic lights,</b> you will see someone waiting <b>at the roundabout.</b>	Place	A specific point of an area A specific area of a place
	My house is <b>at the end of the street.</b>	Place	A specific area of place
	Leave the key <b>at the reception.</b>	Place	A specific area of place
	There is somebody <b>at the door.</b>	Place	External edge of something/ behind
	The students who were sitting <b>at the back are lazy.</b>	Place	A specific area of place
	He was standing <b>at the corner of the street.</b>	Place	A specific area of place
	There is another entrance <b>at the back of the block.</b>	Place	A specific area of place
	I will be <b>at work</b> until 3. 00 p.m.	Place	State
	She is studying chemistry <b>at</b>	Place	Building/ institution

<b>University.</b>		
Do not meet me <b>at the station</b> ; let it be <b>at the airport</b> .	<b>Place</b>	<b>Building/ institution</b>
We went to a concert <b>at the Royal Palace</b> .	<b>Place</b>	<b>Building/ institution</b>
I met him <b>at a party</b> .	<b>Place</b>	<b>Event</b>
Wonderful topics were presented <b>at the conference</b> .	<b>Place</b>	<b>Event</b>
I was <b>at his house</b> yesterday night.	<b>Place</b>	<b>Building/ institution</b>
Do you think if this train stops <b>at Nottingham</b> ?	<b>Place</b>	<b>Transit locations</b>
They <b>arrived at work at 10:00 a.m.</b>	<b>Place/Time</b>	<b>Building/ institution/ Specific period of time</b>
You can do the work <b>at home</b> or when you are <b>at the office</b> .	<b>Place</b>	<b>Building/ institution</b>
We left our luggage <b>at the station</b> .	<b>Place</b>	<b>Building/ institution</b>
We had lunch <b>at the airport</b> .	<b>Place</b>	<b>Building/ institution</b>
The train was travelling <b>at 120 miles an hour</b> .	<b>Distance</b>	<b>Unit of measurement</b>
The water boils <b>at 100 degrees Celsius</b> .	<b>Condition</b>	<b>Average/degree/level</b>
He left school <b>at the age</b> of 18.	<b>Time</b>	<b>Age</b>
He pointed that knife <b>at me</b> just to threaten me.	<b>Direction</b>	<b>Reference</b>
He has <b>been at it</b> for four hours.	<b>Condition</b>	<b>Duration</b>
They have been <b>at peace</b> for ten years.	<b>Condition</b>	<b>State</b>
He was <b>shocked at</b> the condition of the classrooms.	<b>Condition</b>	<b>Reaction</b>
He is <b>good at</b> chess.	<b>Condition</b>	<b>Average/degree/level</b>
They were selling apples <b>at sixty-nine cents a pound</b> .	<b>Value</b>	<b>Unit of measurement/price</b>
The plane was flying <b>at three thousand feet</b> .	<b>Distance</b>	<b>Unit of measurement</b>
I usually wake up <b>at midnight</b> to drink some water.	<b>Time</b>	<b>A specific period of the day</b>
We will meet each other <b>at Christmas</b> .	<b>Time</b>	<b>Occasional events/dates</b>
We got used to do our prayers <b>at sunset</b> .	<b>Time</b>	<b>A specific period of the day</b>
Let us meet <b>at lunchtime</b> .	<b>Time</b>	<b>Times of Refreshment</b>

Mapping the relationship between the matrix domain and the sub-domains, one will notice the following:

1. Speaking of phrasal verbs, one will see that the matrix domain is of two types only: **DIRECTION** and **CONDITION**. The former, **direction**, can be: *reaction, reference, or outward movement*. The latter, on the other flip, comes in the sub-senses of *reaction* and *a state in a place*;
2. As for *at* expressions, generally, the matrix domains can be: **TIME**, **CONDITION**, **PLACE**, and **DISTANCE**). The matrix domain, **time** can be any of the following sub-types: (*a specific period of the day, recurrent periods of time, duration, state, a specific time setting, & now*). The matrix domain, **condition**, can be: (*reaction, average/degree/level, state, & a continuous state at sth.*). As for the Matrix domain **place**, it can involve other sub-domains as: (event, or being at the surface with no direct contact with something). As for the matrix domain, **distance**, it comes only in the sub-sense of (*unit of measurement*).
3. As far as the normal type of sentences is concerned, its matrix domains can be: (**TIME**, **PLACE**, **DISTANCE**, **DIRECTION**, **CONDITION**, and **VALUE**). The matrix domain, **time**, can appear in the any of the following sub-senses: (*now, a specific period of time, sequential arrangement, age, times of refreshment, occasional events/dates, and a specific period of the day*). As for the matrix domain, **place**, it has the following sub-senses: (*a specific dimension of an area, a specific point of an area, a specific area of place, external edge of something, state, building/institution, event, and a transit location*). Regarding the matrix domain, **distance**, it comes only in the sub-sense of *a unit of measurement*. With respect to the matrix domain, **direction**, it comes only in the sub-sense of *reference*. Speaking of the matrix domain, **condition**, it has the following sub-senses: (*degree, duration, state, reaction, and average/degree/level*). Finally, the matrix domain, **value**, comes in the sub-sense of *price/a unit of measurement*). For more clarity, consider **Table (3)** in the following page:

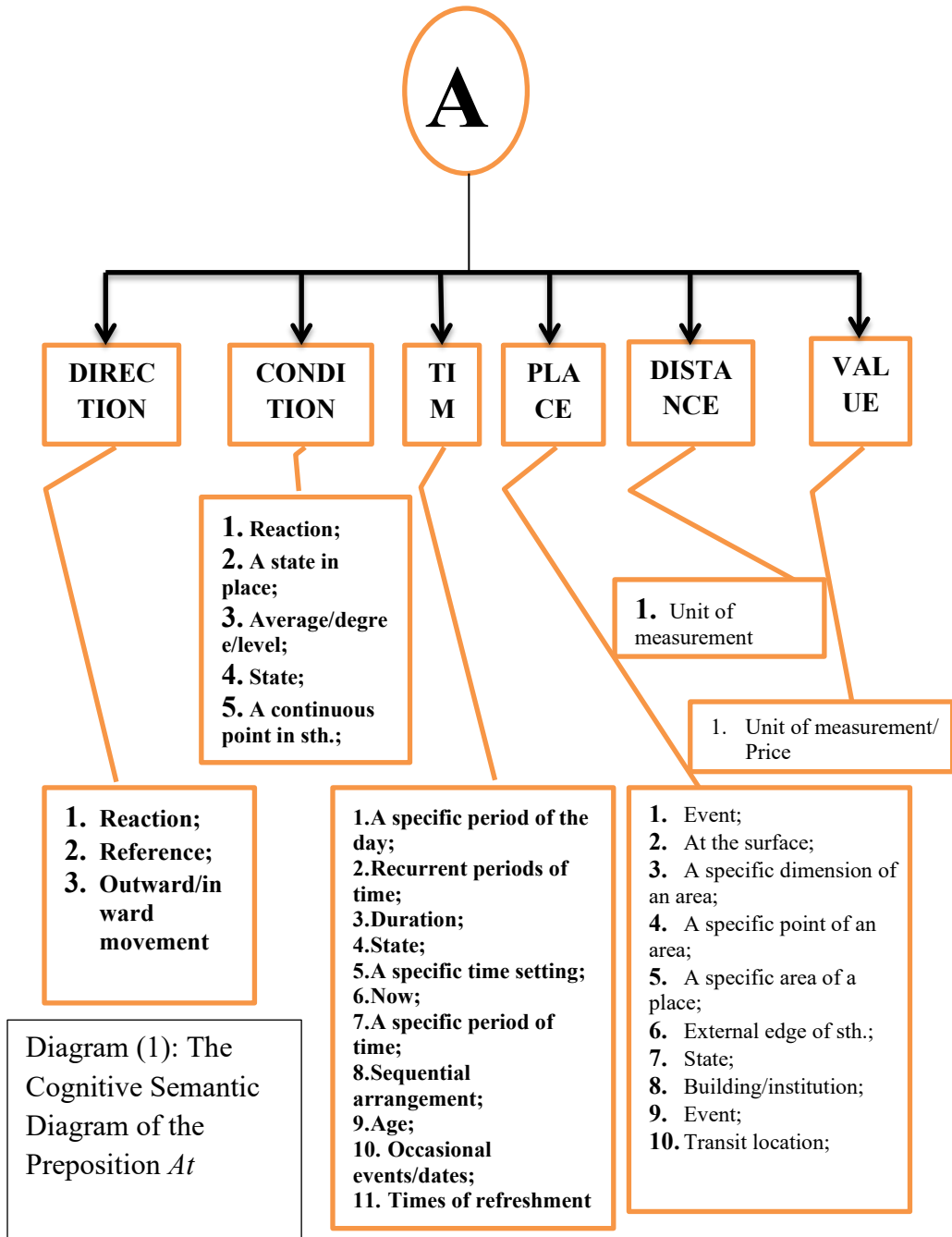
**Table (2): Examining the Relation between the Matrix Domains & Sub-Domains of At**

Items of the Pre-Test	Matrix Domains	Sub-Domains
He spent most of the day <b>sitting at</b> and looking outside.	Condition	A state in place
He <b>made a pass at</b> the woman he met <b>at the party</b> .	Condition Place	Reaction Event
We <b>shuddered at the thought of</b> moving again.	Condition	Reaction
He is <b>excited at the prospect of</b> going to South America.	Condition	Reaction
She felt <b>nervous at the sound of</b> rain.	Condition	Reaction
They made me sick <b>at heart</b> .	Condition	Reaction
You should be here at 5 o'clock <b>at the latest</b> .	Condition	Average/degree/level
<b>At best</b> she is an adequate typist.	Condition	Average/degree/level
He is <b>at advantage</b> because his family has influence.	Condition	Average/degree/level
He <b>looked down at the heels</b> when he was without work.	Condition	State
<b>I was at his mercy</b> during my schooling period.	Condition	State
You did a great job; <b>leave it at that!</b>	Condition	Average/degree/level
He wanted to go home, but he <b>kept at it</b> until the work was finished.	Condition	A continuous point in sth.
The water boils <b>at 100 degrees</b> Celsius.	Condition	Average/degree/level
He has <b>been at it</b> for four hours.	Condition	Duration
They have been <b>at peace</b> for ten years.	Condition	State
He was <b>shocked at</b> the condition of the classrooms.	Condition	Reaction
He is <b>good at</b> chess.	Condition	Average/degree/level
He was angry that was why he shouted <b>at me</b> and threw the ashtray <b>at me</b> .	Condition Direction	Reaction Reaction
That man looks weird, he was staring <b>at me</b> .	Direction	Reaction
He did not exactly excuse him, but we all knew what he was <b>getting at</b> .	Direction	Reference
He <b>picked at</b> the scab on his knee.	Direction	Outward movement
He pointed that knife <b>at me</b> just to threaten me.	Direction	Reference
I tried to stay <b>at arm's length</b> from him to avoid an argument.	Distance	Unit of measurement
The train was travelling <b>at 120 miles an hour</b> .	Distance	Unit of measurement
The plane was flying <b>at three thousand feet</b> .	Distance	Unit of measurement
We were <b>at sea</b> for 30 days.	Place	At the surface with no direct contact
Kindly write your name <b>at the top of the page</b> .	Place	A specific dimension of an area

Turn left <b>at the traffic lights</b> , you will see someone waiting <b>at the roundabout</b> .	Place	A specific point of an area A specific area of a place
My house is <b>at the end of the street</b> .	Place	A specific area of place
Leave the key <b>at the reception</b> .	Place	A specific area of place
There is somebody <b>at the door</b> .	Place	External edge of something/ behind
The students who were sitting <b>at the back</b> are lazy.	Place	A specific area of place
He was standing <b>at the corner of the street</b> .	Place	A specific area of place
There is another entrance <b>at the back of the block</b> .	Place	A specific area of place
I will be <b>at work</b> until 3. 00 p.m.	Place	State
She is studying chemistry <b>at University</b> .	Place	Building/ institution
Do not meet me <b>at the station</b> ; let it be <b>at the airport</b> .	Place	Building/ institution
We went to a concert <b>at the Royal Palace</b> .	Place	Building/ institution
I met him <b>at a party</b> .	Place	Event
Wonderful topics were presented <b>at the conference</b> .	Place	Event
I was <b>at his house</b> yesterday night.	Place	Building/ institution
Do you think if this train stops <b>at Nottingham</b> ?	Place	Transit locations
You can do the work <b>at home</b> or when you are <b>at the office</b> .	Place	Building/ institution
We left our luggage <b>at the station</b> .	Place	Building/ institution
We had lunch <b>at the airport</b> .	Place	Building/ institution
They <b>arrived at work at 10:00 a.m.</b>	Place Time	Building/ institution/ Specific period of time
If the sky is clear, you can see the stars <b>at night</b> .	Time	A specific period of the day
Try to learn one step <b>at a time</b> .	Time	Recurrent periods of time
We discussed the topic <b>at length</b> <b>at our meeting</b> .	Time	Duration
Our professor is <b>an old hand</b> <b>at</b> government operations.	Time	State
We can go home when we are ready <b>at our own discretion</b> .	Time	A specific time setting
I do not have any work <b>at the moment</b> .	Time	Now
<b>At present</b> , I have nothing.	Time	Now



It is difficult to listen if everyone is speaking <b>at the same time</b> .	Time	Now
<b>What time</b> do you usually go to school?	Time	A specific period of time
The weather will be nice <b>at the weekends</b> .	Time	Sequential arrangement
The students had a party <b>at the end of the course</b> .	Time	Sequential arrangement
Are you going away <b>at the beginning of August</b> ?	Time	Sequential arrangement
He left school <b>at the age</b> of 18.	Time	Age
I usually wake up <b>at midnight</b> to drink some water.	Time	A specific period of the day
We will meet each other <b>at Christmas</b> .	Time	Occasional events/dates
We got used to do our prayers <b>at sunset</b> .	Time	A specific period of the day
Let us meet <b>at lunchtime</b> .	Time	Times of Refreshment
They were selling apples <b>at sixty-nine cents a pound</b> .	Value	Unit of measurement/price



As for the analysis of the second objective, the test designed by the researchers was submitted to the subjects, first year students, who were (80) in number. The time allotted to the test was (1 hr.). Then, the answer sheets were marked and the results of the percentages were shown in **Table (4)**:

**Table (4): The Subjects' Semantic Range on the Preposition *at***

Item No.	Correct Responses	Matrix Domain	Percentages
1.	74	TIME	53.28
2.	32	TIME	23.04
3.	2	TIME	1.44
4.	35	TIME	25.2
5.	32	TIME	23.04
6.	10	TIME	7.2
7.	13	PLACE	9.36
8.	a. 11 b. 17	PLACE PLACE	a. 7.92 b. 12.24
9.	26	PLACE	18.72
10.	9	PLACE	6.48
11.	27	PLACE	19.44
12.	3	CONDITION	2.16
13.	16	PLACE	11.52
14.	16	PLACE	11.52
15.	24	PLACE	17.28
16.	42	PLACE	30.24
17.	13	PLACE	9.36
18.	47	PLACE	33.84
19.	a. 27 b. 22	PLACE PLACE	a. 19.44 b. 15.84
20.	26	PLACE	18.72
21.	17	PLACE	12.24
22.	12	PLACE	8.64
23.	13	PLACE	9.36
24.	23	PLACE	16.56
25.	a. 10 b. 64	PLACE TIME	a. 7.2 b. 47.08



26.	a. 60 b. 10	a.PLACE b.PLACE	c. 43.2 d. 7.2
27.	17	PLACE	12.24
28.	19	PLACE	13.68
29.	22	DISTANCE	15.84
30.	32	CONDITION	23.04
31.	33	TIME	23.76
32.	a. 18 b. 16	a. CONDITION b. DIRECTION	c. 12.96 d. 11.52
33.	27	DIRECTION	19.44
34.	23	DIRECTION	16.56
35.	a. 6 b. 30	a. CONDITION b. PLACE	c. 4.32 d. 21.6
36.	52	TIME	37.44
37.	13	CONDITION	9.36
38.	8	CONDITION	5.76
39.	24	CONDITION	17.28
40.	a. 16 b. 17	TIME PLACE	a. 11.52 b. 12.24
41.	15	CONDITION	10.8
42.	10	CONDITION	7.2
43.	14	CONDITION	10.08
44.	23	CONDITION	16.56
45.	32	CONDITION	23.04
46.	8	CONDITION	5.76
47.	14	TIME	10.08
48.	37	VALUE	26.64
49.	16	DISTANCE	11.52
50.	25	DISTANCE	18
51.	25	CONDITION	18
52.	25	CONDITION	18
53.	12	CONDITION	8.64
54.	19	CONDITION	13.68
55.	6	CONDITION	4.32
56.	16	CONDITION	11.52



57.	10	TIME	7.2
58.	7	DIRECTION	5.04
59.	8	DIRECTION	5.76
60.	38	TIME	27.36
61.	7	TIME	5.04
62.	71	TIME	51.12
63.	26	TIME	18.72
64.	24	TIME	17.28
65.	46	TIME	33.12

Table (4) reveals the following:

1. Generally nearly all subjects have difficulties in highlighting the right matrix domains to the test items. This is by itself a clear indication to their lack of knowledge in highlighting the semantics of the preposition *at* in all three broad categories: sentences, expressions and phrasal verbs;
2. Items **(1), (25 b), (26a), (62) and (65)**, were successfully answered by the majority of the subjects in comparison to the other items. If one examines the matrix domains of these answered items, one will notice that they belong to only to Matrix categories, TIME and PLACE. As for their sub-domains, their semantic range is limited to the following, respectively: (*a specific period of the day, specific period of time, building/institution, now, and times of refreshment*). This indicates that their semantic range with respect to the preposition in question is meagerly limited; and
3. The highest percentages obtained were within the matrix domain Time, and specifically within the sub-domains: *a specific period of the time* (53.28) and *now* (51.12).

By comparing the mean scores obtained across the three broad categories (sentences, expressions, and/or phrasal verbs) from the subjects' correct responses illustrated in **Table (4)**, one will notice that the mean score of sentences was **13.0625**; expressions was **6.475**; and of phrasal verbs was **0.9875**. Consider **Table (5)** below:



**Table (5) Mean Scores of the Three Categories of the Test Items**

Categories	Sentences	Expressions	Phrasal verbs
Mean	13.0625	6.475	0.9875

This means that the subjects' difficulties start with sentences, then expressions and finally with phrasal verbs.

## Conclusion

From the findings obtained from analyzing the test items, the researchers' conclusions can be summed as follows:

- a. The cognitive theories can be applied to many language-related studies. The model used for instance managed to provide a miniature image to the different usages of the preposition *at*;
- b. The diagram provided cognitively might help EFL learners recall the various semantic domains of the preposition *at*;
- c. The matrix domain of the preposition *at* is fixed in number whereas the sub-domain might be increased depending on the evolution of new senses;
- d. The subjects have a high lack of knowledge regarding the semantics of the preposition *at* in sentences, expressions and phrasal verbs;
- e. The subjects' wrong choice of prepositions might be attributed to the semantic overlapping between the correct and incorrect ones; lack of knowledge, or to the limited frequency of usage;
- f. Hudson (1997) concludes out of his study that ESL/EFL learners are not expected to know all usages of prepositions. Such a conclusion is in line with the results obtained from the analysis. However, it has shockingly been noticed that EFL students are not even aware of all usages of the given preposition;
- g. The results obtained further agree with the one arrived at by Celce-Murica et. al (1999, 401) in that prepositions in general are difficult as they are



polysemous. However, the researchers do believe more that the preposition *at* is both polysemous and homonymous at the same time. This is because it reflects different Matrix domains and/or sun-domains.

### Recommendations

The following suggestions are highly recommended:

1. Teachers are usually advised to use various methods and/or techniques in the process of teaching. However, this time, it is highly recommended to make use of the cognitive linguistic theories not only in analyzing, but also in teaching any linguistic subject;
2. Teachers are also encouraged to use the cognitive diagram in highlighting the various usages of the preposition *at* and in the process of teaching as well;
3. All prepositions need to be cognitively diagrammed to facilitate the process of understanding and distinction between the overlapping ones and to know about their various semantic range or domains;
4. Visual images can be a good technique to be used in the process of clarifying and highlighting the required domain of any preposition.



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## Appendix (1)

### Cover Letter

Dear Jurors,

The present test revolves around the different usages of the preposition *AT*. It is designed purposefully to first, help develop a semantic cognitive diagram that covers the overall semantic domains of the preposition *AT*; second, to examine university students' difficulty in mastering the preposition in question. The items of the test are taken from two different books, Murphy's *English Grammar in Use* (1994) and Yates' *The Ins and Outs of Prepositions* (1999). The number of the items is (65); covering all (72) usages of *AT*. The test is a primordial step, where its results will be the basis to another research project.

The researchers,

Dr. Rana H. Al-Bahrani (Linguistic  
Theory)<sup>1</sup>

Asst. Prof. Maysaa Rashid Al-Rubaye  
(Applied Linguistics)<sup>2</sup>

Department of English/

College of Education for Women/

University of Baghdad<sup>1&2</sup>



## Appendix (2)

### The Test

Choose the correct proposition out of the following: (IN, ON, AT, & To) when needed.

1. If the sky is clear, you can see the stars .....night.
2. It is difficult to listen if everyone is speaking.....the same time.
3. ....what time do you usually go to school?
4. The weather will be nice .....the weekends.
5. The students had a party .....the end of the course.
6. Are you going away.....the beginning of August?
7. Kindly write your name .....the top of the page.
8. Turn left .....the traffic lights, you will see someone waiting.....the roundabout.
9. My house is.....the end of the street.
10. Leave the key.....the reception.
11. There is somebody.....the door.
12. He spent most of the day sitting.....and looking outside.
13. The students who were sitting .....the back are lazy.
14. He was standing.....the corner of the street.
15. There is another entrance.....the back of the block.



16. I will be..... work until 3. 00 p.m.
17. We were.....sea for 30 days.
18. She is studying chemistry ..... University.
19. Do not meet me.....the station, let it be.....the airport.
20. We went to a concert.....the Royal Palace.
21. I met him.....a party.
22. Wonderful topics were presented.....the conference.
23. I was .....his house yesterday night.
24. Do you think if this train stops..... Nottingham?
25. They arrived .....work .....10:00 a.m.
26. You can do the work.....home or when you are .....the office.
27. We left our luggage.....the station.
28. We had lunch.....the airport.
29. The train was travelling .....120 miles an hour.
30. The water boils.....100 degrees Celsius.
31. He left school.....the age of 18.
32. He was angry that was why he shouted.....me and threw the ashtray .....me.
33. That man looks weird, he was staring .....me.
34. He pointed that knife .....me just to threaten me.



35. He made a pass ..... the woman he met ..... the party.
36. Try to learn one step.....a time.
37. We shuddered.....the thought of moving again.
38. He is excited.....the prospect of going to South America.
39. She felt nervous.....the sound of rain.
40. We discussed the topic.....length.....our meeting.
41. He has been .....it for four hours.
42. He wanted to go home, but he kept .....it until the work was finished.
43. They have been.....peace for ten years.
44. He was shocked.....the condition of the classrooms.
45. He is good..... chess.
46. They made me sick.....heart.
47. Our professor is an old hand.....government operations.
48. They were selling apples.....sixty-nine cents a pound.
49. The plane was flying .....three thousand feet.
50. I tried to stay.....arm's length from him to avoid an argument.
51. You should be here at 5 o'clock.....the latest.
52. ....best she is an adequate typist.



53. He is .....advantage because his family has influence.
54. He looked down .....the heels when he was without work.
55. I was .....his mercy during my schooling period.
56. You did a great job; leave it .....that!
57. We can go home when we are ready.....our own discretion.
58. He did not exactly excuse him, but we all knew what he was getting  
..... .
59. He picked.....the scab on his knee.
60. I usually wake up..... midnight to drink some water.
61. We will meet each other ..... Christmas.
62. I do not have any work ..... the moment.
63. We got used to do our prayers .....the sunset.
64. ....present, I have nothing.
65. Let us meet .....lunchtime.