

# كلمية التريبيه

**أولاً: الماجستير**

## قسم أصول التربية

التغير القيمي فى قرية الشخلوبة ومتطلباته التربوية

### THE VALUE CHANGE IN EL-SHAKHLOPA VILLAGE AND ITS EDUCATIONAL REQUIREMENTS

رباب عبدالعزيز أبو اليزيد كمون

#### SUMMARY

changing values is not an innovated and modern phenomenon. Throughout the human history, man is facing the problem of changing and arranging values. This may be the result of changing systems that some values vanish and disappear, while other are generated instead. Therefore frequent, modern and fast changes affect nations values to be resembled in the face of the challenges of the age of globalization. This phenomenon seeks to control Arabs. This control appears in the form of trial to lead the whole world culturally. Hence a hierarchy of globalized values based on the information and technology revolution becomes a weapon and entrance to be prevailed.

No one can neglect the effect of other variables on changing our variables. Therefore, this study aims at noting and resistering the change level of our levels. Hence a new spot of the Egyptian country was employed for its place and economic specialty, as well as its remarkable figure in the frame of changing values. So, the sample of this study was located at a small coast village “El-Shakhlopa”, which is remarked with its location, remarkable economic activity of raising fish and the continuous commercial move, as well as the effect of this economic activity on changing the values of the whole village.

Therefore, the goal of this study was to determine the educational bases and requirements, which aim at raising a person able to face the changes in a fixed and fast way. The success of the educational process is measures by the speed of response and the effect of the social variables.

## التربية السياسية في كتابات خالد محمد خالد

عبد الصمد محمد عبد الصمد محمد شاهين

### الملخص

جاءت هذه الدراسة للبحث في " التربية السياسية في فكر خالد محمد خالد " باعتباره واحداً من أبرز رموز التيار الإسلامي المعتدل الإصلاحي المستنير، الذي يسعى إلى بلورة النموذج الحضاري الإسلامي ليكون الأساس لنهضة الأمة وتقديمها، والمنطلق للإصلاح والتغيير. وتسعى الدراسة الحالية للتعرف على التربية السياسية في فكر خالد محمد خالد من خلال البحث في الأسس والأصول التي تقوم عليها وتستند إليها التربية، والتي تتمثل في الأصول الفلسفية للتربية السياسية بالإضافة إلى الأسس والمنطلقات الفكرية .

وترجع أهمية الدراسة الحالية إلى كونها محاولة لإبراز معالم المنهج الإسلامي الذي يطرحه خالد محمد خالد الذي يتبنى الوسطية الإسلامية، ويرفض غلو تيار الجمود والتقليد و تيار التغريب معاً، وذلك من خلال التعرف على أسس ومنطلقات الفكر السياسي في فكر أحد أبرز مفكريه المعاصرين وأكثرهم اقتراباً من فكر التيار الإصلاحي، حيث قام بجمع ودراسة وتحقيق الأعمال السياسية وكتاباته السياسية والاجتماعية بالإضافة إلى مواجهته لكافة التيارات الفكرية الأخرى، كتيار الجمود والتقليد في الفكر الإسلامي و تيار التغريب العلماني، وذلك من أجل الدفاع .. عن الاستقلال الحضاري للأمة .

وجاءت الدراسة في سبعة فصول تناول الباحث في فصلها الأول الإطار العام للدراسة ثم عرض لحياة خالد محمد خالد والعوامل التي ساهمت في بلورة وتشكيل فكره مع عرض لأبرز التيارات الفكرية على ساحة الفكر العربي ورؤية خالد لكل منهما، وكذلك موقف خالد مع الماركسيين فيما اتفق وفيما اختلف .

ثم عرض الباحث ملامح الفكر السياسي الذي قام عليها المشروع الفكري لخالد محمد خالد من خلال اختياره لعشرة قضايا تمثل المحاور الأساسية للقضايا المفضلة في فكره . ثم عرض الباحث في الفصول المتتالية لدراسته الأصول الفلسفية للتربية السياسية في فكر خالد محمد خالد، وكذلك أهداف التربية السياسية، كما خصص فصلاً مستقلاً للبحث في مؤسسات التربية السياسية في فكر خالد محمد خالد أعقبه بخلاصة الدراسة ونتائجها ثم مجموعة من التوصيات .

وتتمثل أهم نتائج الدراسة في إبراز مدى مكانة التربية السياسية ومؤسساتها في إصلاح الفكر السياسي لدى الأفراد وكذلك التيارات الفكرية التي تبني منهج الوسطية الإسلامية، وتؤمن بالتعددية والتفاعل الحضاري، وضرورة الحفاظ على سمات وقسمات الخصوصية الحضارية الإسلامية والدفاع عن هذه الخصوصية في مواجهة أعاصير العولمة، وكذلك التركيز على دراسة الشخصيات العملية والقيادية والدينية ذات الدور البارز في التاريخ .

كما كان من أبرز توصياتها ضرورة اهتمام علماء الأمة ومفكريها ببلورة وطرح النموذج الحضاري الإسلامي وصياغة فلسفة إسلامية متميزة تمثل رؤية الأمة وتصورها لكافة قضايا الكون والحياة والاجتماع والعمران الإنساني، كذلك أوصت الدراسة بضرورة إطلاق حرية الأفكار، والأقوال والكتابة وذلك في ظل قانون يرسم الحدود بين الواجبات والحقوق، وأن يطبق هذا النظام في الهيكل التعليمي وخاصة في مرحلة الثانوي والجامعي

دور التعليم الفني في إعداد القوى العاملة اللازمة لاحتياجات التنمية في ضوء  
المتغيرات المعاصرة، (دراسة تقويمية)

**THE ROLE OF TECHNICAL EDUCATION Thesis**  
**Submitted for the Fulfillment of the Requirements of**  
**Rady Abd El-Moneim El- Shamly Salem**

راضى عبدا لمنعم الشاملي سالم

**SUMMARY**

Education is one of the most prominent industrial specialties that required focus and develop as it represents a natural approach for the preparation of the manpower required for the supply of production enterprises and service cadres knowledgeable. All levels, and economic and social development in both developed and developing countries depends largely on the effective use of resources and adequate human and material possession. The modern nation-building depends on the development of human beings and the organization of human activity.

This is achieved by developing technical schools industrial modernization of curricula and adding new specialties needed by the labour market both at home and abroad by providing them with equipment and supplies needed

In addition to preparing teacher education colleges within the industrial specialized for this purpose even play its role effectively, "to be more frequent training courses and field visits for students of colleges of education as well as industrial and teaching staff for the factories to give practical skills and preferably be based on the dispatch of teaching in private colleges to prepare Art teacher industrial action at intervals of three to six months to live real life in the industry and to identify what is new techniques and sophisticated methods

## قسم الصحة النفسية

دور بعض المحددات الدينامية في السلوك الانسحابي لدى عينة من تلاميذ الحلقة الأولى من التعليم الأساسي

### THE ROLE OF SOME DYNAMIC LIMITATIONS IN WITHDRAWAL BEHAVIOR IN A SAMPLE OF ELEMENTARY EDUCATION FIRST STAGE PUPILS

مها محمد شحاتة

#### SUMMARY

The dynamic side represents an important side of personality , it reflects most of human behavior patterns concerning well-belling or ill-being , in addition to the individual's ability to communicate with others and get in the community dynamics to be an integrated part of the society . If such dynamics have some deficits , they turn into a destructive weapon destroying the personality structure and cause its breast-down veiling the individual in his own world away from the others.

#### Problem :

**The study problem can be shown in the following questions:**

- Is it possible to predict withdrawal behavior thought ego strength and its dimensions?.
- Is it possible to predict withdrawal behavior thought super ego?
- Are there differences between male and female scores in dynamic limitations (ego strength – super ego) and withdrawal behavior?
- Are there differences between fifth and sixth grade pupils scores in dynamic limitations (ego strength – super ego) and withdrawal behavior?
- Is there an effect for level of both ego strength and super ego and their interactions on withdrawal behavior?
- Is there some factor and dynamic that causes withdrawal behavior for students of Elementary Education First Stage Pupils?

**Aims :**

**The study aims are represented in the following:**

predict withdrawal behavior thought ego strength and its dimensions.

predict withdrawal behavior thought super ego.

investigate the differences between male and female scores in dynamic limitations (ego strength – super ego) and withdrawal behavior.

investigate the effect for level of both ego strength and super ego and their interactions on withdrawal behavior.

investigate some factor and dynamic that causes withdrawal behavior for students of Elementary Education First Stage Pupils?

التفاعل الأسرى وعلاقته بالكفاءة الاجتماعية لدى عينة  
من التلاميذ فى مرحلة الطفولة المتأخرة

**FAMILY INTERACTION AND ITS RELATIONSHIP TO SOCIAL  
COMPETENCE FOR A SAMPLE OF PUPILS IN LATE  
CHILDHOOD PHASE**

رشا جابر عبدالمنعم

**SUMMARY**

The persistent interaction between family members is considered a major aspect of the family, which helps - through it - the growth and integration of its individuals' personality, specially the young children, as the child aquires ( his / her ) attitudes from it, besides his habits and behavioural modes that help ( him / her ) to merge with other social networks in the society, and so, the family is not just a place where the members live or practice different kinds of activities, it's the suitable place where the child learns the major habits of his groups, besides, it aims at supporting the society with new members aware of the basis and foundations of their society, and excuting its instructions, the family therefore defines the social behavioural properties for the child through defining ( his / her ) name, religion and rank, it's the place that provides them with safety and stability.



## قسم علم نفس تربوي

تدريبات الانتباه الانتقائي وأثرها علي بعض  
المتغيرات المعرفية لدي المتخلفين عقلياً

### TRAININGS OF SELECTIVE ATTENTION AND ITS INFLUENCE ON SOME COGNITIVE PROCESSES IN MENTALLY RETARDED CHILDREN "EDUCABLE"

رشا السيد عوض الرحماني

#### SUMMARY

The mental retardation problem is considered one of the most important Problems which faces the developing and advanced countries .Because the mentally retarded persons represent unproductive power in their families and countries so, the advanced countries try to guide the researches and studies for training the mentally retarded children to qualify them to grow and reach the highest standard they could .

Therese arches which interested in studing the cognitive processes of the mentally retarded persons showed that they have deficit in attention memory and perception .also the rate of the development and growth of the mentally retarded is slow compared with their normal peers (lajoie, ٢٠٠٢. ٤٢-٤٨).

Soarci etal ١٩٩٠ refer to the necessity of training the mentally retarded ,because this helps him to benefit from the educational programs designed for them . (soarci etal. ١٩٩٠, ٣١٤).

أثر التدريب على بعض استراتيجيات ما وراء المعرفة  
في تحسين مستوى الفهم القرائي لدي تلاميذ  
الحلقة الثانية من التعليم الأساسي

**THE EFFECT OF TRAINING OF SOME MET COGNITION  
STRATEGIES ON IMPROVING READING COMPREHENSION  
LEVEL AMONG THE STUDENTS OF THE SECOND STAGE  
OF BASIC EDUCATION**

مراد راتب محمد على

**SUMMARY**

The world now witness a great scientific and technological revolution which is so quick in its development and changement which cause serious and big changements in all life fields. And this scientific and technical revolution is continuing with increasingly effect day after day (gradually), and leads to more complex in the life of individual which makes it compulsory for him to understand these great, contradict, amazing scientific and technological changements which needs a high level of thinking and education that makes the individual able to adapt with his surroundings, as the progress is now measured with what the countries have of information , thinkers and scientists who make knowledge and makes it suitable for creation.

The Matter of thinking became so important in the modern education which a sured on the necessity of developing the individual ability to think to be able to deal with this amazing scientific revolution that is found in the world and to be able to think in a correct scientific way and able to design creatively away of keeping and traditional ways of mind and to be able to learn how to seek the knowledge by himself and to be convinced and makes use of it in his daily life.

The training on the strategies of metacognition may be important and effective in the individual life because the use of metacognition strategies increases the awareness of learners of what they are learning in addition

the use of these strategies develop the different thinking skills of students moreover the use of metacognition strategies in different learning situations make students learn better through increasing the ability of learner to think in a better manner.

Reading comprehension is considered one of the most important skills of reading skills and the most important of its teaching aims , the teaching of reading aims in all stages and levels to develop the ability to understand what the printed material contains. In the same time, reading comprehension is considered one of the most related skill of mind skills with learning process and the most effective one in learning achievement and in succeeding in the different learning tasks.

Owing to the importance of reading comprehension in the life of human in general and in the life of student in particular the present study is interested with training students on some of meta cognition strategies which may lead to improving their reading comprehension level.

أساليب التعلم لدى الصم  
فى ضوء بعض المتغيرات الأسرية

**LEARNING STYLES OF THE DEAF IN LIGHT OF FAMILY  
VARIABLES**

وسام أمين محمد الشراكى

**SUMMARY**

Hearing sense plays an important role in individual learning for him and in his interaction with others , so we find that depriving the child of this Sense makes it hard for him to learn ,as it makes him unable to gain languages as a descriptive tool for completing the interaction with others.

Abdul Ghaffar Al Damati (١٩٨٧) asserts that most of the problems the child faces is not resulting directly from hearing impairment itself but in how the others respond to him and unaccepting him in his environment as a result of his impairment and deficiency.

The study of learning styles aims at focusing on the importance of differences in the learning process according to the differences among students and their stages of learning as students differ in learning styles hence, this difference affects the results of the learning and teaching processes .

In terms of achieving its goals, these differences in the learning styles are attributable not only to differences in environmental and social conditions which interact with the physical and emotional needs only, but it also reflects the individual's educational experience in his previous stages of life, that could play a role in determination the style of future learning style.

إدراك الحرمان الأسرى وعلاقته ببعض المتغيرات المعرفية واللامعرفية  
لدى الأطفال

**PERCEPTION OF FAMILY- DEPRIVATION AND ITS  
RELATIONSHIP WITH SOME OF COGNATIVE AND NON  
COGNATIVE VARIABLES FOR CHILDREN**

تامر السيد محمد السيد البنا

**SUMMARY**

A child's life , at an early age depends open those who surround him ; for periods extend to years, people emerge in the years of his l her early – life , of shaping and forming the basic principles of child – personality. Every person has a role in raising up a child whether it has been ; mother ; father brother ; sisters and cousins . A child's family is the basic source for full filling the child's needs ; providing safety ; psych and health " perfection " and protection and taking care of the child in an atmosphere of stability ; love ; warm ; rendering ; giving him assuring- self and frankly , expresses what he / she desires , We see the child who lives away from his family – that child who is exposed to deprivation of parents and natural family – atmosphere, missing all motters and merits which he / she acquires through family and natural family – atmosphere , A child who lives in a family in jured from dissociation or lives ; deprived from psych – return which was supposed to be back to him through family – existence and per for ming its essential - functions .These functions an not be a achieved ; but through family – inter action among its different members . It is a dynamic – interaction among themselves . A family is not ; only ; members.

It is not separated dualities from each others yet ; it is dvalities combine in family – frame to affect the child and its growth in the end . parental or Non – parental deprivation may not be a decisive – factor in

this subject , There are children who must be deprived by necessity, from parents by death . So , it should be car for us to have both warning and accuracy in relating all child's suffering to deprivation only.

We must bear in consideration / mind care– quality which a child receives whether be for or after deprivation , Deprivation may not due lo parents' loss only. But ' it may be as a result of shortage in self – sat is fuction chances of chances of child's different needs ; even in case of parents' existence , Those , deprivation conception is not limited lo parent's loss in its traditional meaning and parental – orphanage yet , akind of psychological ; or sympathizing orphanage ; may take – place ; if this expression is to be valid in the presense of family and ponents.

## قسم المناهج وطرق التدريس

تأثير المشابهات علي التحصيل الأكاديمي الابتكاري في مادة الدراسات  
الاجتماعية لدي تلاميذ الحلقة الثانية من التعليم الأساسي

### THE EFFECT OF SYNECTICS ON CREATIVE ACADEMIC ACHIEVEMENT IN SOCIAL STUDIES OF THE SECOND STAGE OF THE BASIC EDUCATION

السيد عبد اللطيف إبراهيم شلبي

#### SUMMARY

##### Introduction :

No doubt that the amount of information has greatly increased in this age that it has become an age distinguished with constant and rapid change, it is also distinguished with the vastest amount of information and this requires building a generation of creators to keep a breast with the age through practicing creativity in the school curricula.

##### Study problem specification:

The previous presentation reveals that there has been an insufficiency in the performance of teachers concerning the creative thinking in general and in social studies in particular. This insufficiency stemmed from not preparing the suitable circumstances or the convenient educational climate needed for stimulating the creative thinking and this had led to a decline of the level of the creative thinking of learners' so the problem of the present study has been specified as follows:

What is the effect of the simulations method on the creative academic learning in the social studies of ٨<sup>th</sup> year of the second stage of the basic education pupils? The following questions arise:

What is the effect of the simulations method and the usual method in teaching the social studies on developing the creative thinking of the ability of fluency?

فاعلية برنامج للتدريب والممارسة باستخدام الكمبيوتر في تنمية التحصيل والتفكير  
الهندسي لدى تلاميذ مرحلة التعليم الأساسي

**THE EFFECTIVENESS OF A COMPUTER ASSISTED  
INSTRUCTION DRILL AND PRACTICE IN DEVELOPING  
GEOMETRIC AN ACHIEVEMENT AND THINKING OF THE  
BASIC EDUCATION STAGE STUDENTS**

شاكر محمد على على سليمان

**SUMMARY**

**Introduction:**

The ability to think and solving problems are considered to be the most remarkable behaviors of the human beings. Therefore, developing the thinking ability is the most important learning task to solve his problems and faces the different needs of his life. (Abd El- Hafez, S. & Eskandar, A: ١٩٩٩). Hence, developing the thinking ability should be the first priority. This sort of thinking may be realized through solving problems. (Hassan, M.: ١٩٩٩) One of Teaching Math's aims is that of; enhancing mathematical thinking methods and acquiring mathematical skills and providing the learner with a sufficient mount of mathematical data and culture This data also helps the learner have a rationalized judgments, to be able to solve the different problems that faces him, as well as depend of their selves in acquiring the different experience and knowledge. (Khaddar, N: ١٩٨٤: ٤١) Contents of Geometry have a remarkable place among other Math contents in the Egyptian schools, for its knowledgeable content and the ability to apply its knowledge in the different fields of life, due to the close relationship between these geometry contents and the learner's environment as well as the variable knowledge fields. These contents also have a vital role in achieving the instructional objectives on the part of educators and instructional responsible.



تطوير منهج الاقتصاد بالمدارس الثانوية التجارية في ضوء المعايير العالمية  
ومدخل تحسين الجودة المستمر (دراسة تجريبية)

**DEVELOPING THE ECONOMIC CURRICULUM AT THE  
SECONDARY COMMERCIAL SCHOOLS IN THE LIGHT OF  
THE INTERNATIONAL STANDARDS AND CONTINUOUS  
QUALITY IMPROVEMENT APPROACH  
(EXPERIMENTAL STUDY)**

نيرمين محمد محمد عثمان

**SUMMARY**

The researcher in this chapter deals with a summary of the study problem , steps of its research and summary of the result's that she reached to . she presents, in this light some recommendations and suggestions through which some other researches and studies can be done . the following is a review of these sides .

The variables that happened in the world , either inside Egypt or outside, impose on the responsible levels of education development in general and commercial education in particular creating numerous developments in curriculums so as to fulfill the society needs within the framework of the world variables with the effect on the national economy curriculum development includes permanently improvement of the curriculum that helps it adapt to the local and world economic variables and quality management standards .

The Economics curriculum is one of the commercial ones which students of the secondary commercial school study it helps with other commercial curriculums to achieve the aims of the secondary commercial education as it contributes to preparation of the citizen to be able to perform his role as a good consumer producer and investor.

Thought studying Economics at the secondary commercial schools, we find out that it aims to contributing to the formation of the good citizen culturally, Scientifically and nationally from the affective, national educational , social and behavior aspects, it is clear from the economics aims that there comes out a necessary need to develop the economical Knowledge of the students and direct them to interact with the society

There fore, it was the need for this study that aimed to develop the economics curriculum for the secondary commercial school students In the light of International standards and Continous Quality Improvement Approach

فعالية برنامج مقترح قائم علي استخدام الوسائط المتعددة  
في تنمية مهارات  
الفنون التشكيلية بالخط العربي لدى تلاميذ المرحلة  
الإعدادية

**THE EFFECTIVENESS OF A SUGGESTED MULTI MEDIA  
PROGRAMME ON DEVELOPING THE PLASTIC ARTS OF THE  
ARABIC CALLIGRAPHY SKILLS OF THE BASIC PREP-  
STAGE STUDENTS**

كريمة جبر مصطفى مرعي

**Abstract**

The present study handles developing plastic arts using a multimedia- Arabic calligraphy program. One of the Arabic calligraphies (*Nassikh*) has been taught in detail and then has been used in art works. The experimental group, including 30 subjects, has been taught using the multimedia- Arabic calligraphy program. Another control group has been taught in the traditional way. Results, based on statistical procedures, showed that the multimedia- Arabic calligraphy program has been proved to effective in developing plastic arts skills among preparatory school students.

فعالية برنامج باستخدام الوسائط المتعددة في التحصيل والتصور المكاني لدى  
تلاميذ الصم بالتعليم الأساسي

**The Effectiveness of Multimedia Program in Achievement  
and Spatial Visualization for Deaf Pupils in Basic Education.**

إيمان عبد العليم سيد أحمد جمعه

**SUMMARY**

The multi media helps in presenting the syllabus to the deaf student through a mixture of written texts ,drawings ,lining formations ,motion drawings ,fixed pictures and motion pictures .the fixed and motion things can be presented as if they are in a real world through its personalization, motion ,feeling it or by what is known the assuming reality via the computer or presenting it printed .consequently, there is a necessity to concentrate on the sense of sight for the deaf through using pictures, drawings and maps .....with the use of short sentences and expressing the idea with the least number of words because by the use of visual means with the deaf ,the level of attention and motivation is increased besides providing them with substitute experiences ,understanding the concepts and translating them visually .

Also, the photos, (motion, television) pictures, videotapes, the cinema and the computer are considered one of the most important means that can be used with the students. also, dividing the syllabus into small parts and presenting it simply can contribute in achieving more efficient learning than the traditional methods in teaching the deaf. more over ,paying attention to employ the new technology and investing it in the field of education is in fact a logical response to the need for the necessity of developing the education generally and modernizing the teaching methods of the deaf and its strategies particularly.

تأثير استخدام برنامج للكمبيوتر علي تنمية مهارات الترجمة  
بين طلاب المرحلة الثانوية

**THE EFFECT OF USING A COMPUTER PROGRAM ON  
DEVELOPING TRANSLATION SKILLS AMONG SECONDARY  
SCHOOL STUDENTS**

نوره عبد الوهاب عبد الحميد دخيل

**ABSTRACT**

The present study, dealing with the problems of translation at secondary school level, discusses the effect of a computer program on developing five translation skills: lexical, semantic, morpho-syntactic, coherence and cohesion skills. The study was conducted in the second semester of the school year (٢٠٠٦- ٢٠٠٧). A pre- post test experimental design was used and a sample of thirty six students was assigned to an experimental group and a control group. The experimental group was taught with the help of the computer program, while the control group was taught in the traditional way. Five null hypotheses were formulated to be tested at ٠.٠٥ level. Statistical procedures which included correlation coefficient and t-test for correlated and uncorrelated data were applied. Findings reveal a more significant development in the five skills in the experimental group than in the control group. Recommendations for further research are included.

## قسم إعداد المعلم فى العلوم

الربط بين المجموعات الأستقرابية والمجموعات الفازية و التوبولوجى

### CONNECTION BETWEEN ROUGH SETS, FUZZY SETS AND TOPOLOGY

نجوى يونس الصاوى القلقاط

#### ABSTRACT

There are connection between rough set theory and many other theories, in particular dealing with vagueness and uncertainty. In particular relation to fuzzy set theory, the theory of evidence, Boolean reasoning methods, discriminate analysis and decision theory has been extensively investigated.

A number of practical applications of rough set have been developed in recent years in many areas such as medicine, drug research, process control, medical diagnosis, pharmacology, market research, control system design, image processing and many others.

The primary notions of the theory of rough sets are the approximation space and lower and upper approximations of a set.

The theory of rough sets can be generalized in several directions. Rough membership functions are viewed as a special type of fuzzy membership functions interpretable using conditional probabilities.

Topology has become an important topic for many areas of science such as chemistry, physics and information systems.

This thesis consists of six chapters. We study through thesis rough set and fuzzy set. We relate between rough set, fuzzy set, and topology.

Chapter (١) is devoted to give a comprehensive study for knowledge base with example, and the basic concepts of rough set theory and we give examples on the properties of rough set theory such as membership relation , rough equality of sets and rough inclusion of sets. We give the definition of reduct and core of knowledge and examples on them and we give the definition of dependency of knowledge.

In Chapter (٢) we study fuzzy set theory and some properties of it. Also we study operation and relation on it and we give some examples on them. we give operations on binary fuzzy relations such as inverse of fuzzy relations and composition of fuzzy relations. At the end of this chapter we give an example for fuzzy set applications.

The purpose of Chapter (٣) is study relationship between rough set and fuzzy set via topology, so we can convert by using topology to rough set and fuzzy sets and we convert from rough set to fuzzy set and vice versa. And we defined combination of rough and fuzzy sets by using different scientist, at end of this chapter we defined rough fuzzy and fuzzy rough sets and we gave example on them.

Chapter (٤) is conclusion and future work. .

Chapter (٥) is references.

Chapter (٦) for Arabic summary.

تحضير ودراسات طيفية وتطبيقية لبعض مترابطات النحاس مع  
ليجندات متعددة الأمين  
(كيمياء غير العضوية)

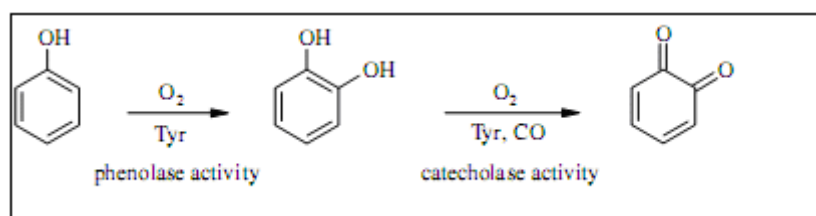
**SYNTHESIS, SPECTROSCOPIC AND APPLIED STUDIES OF  
COPPER COMPLEXES CONTAINING MULTIDENTATE  
AMINE LIGANDS**

محمد مبروك دويدار مبروك

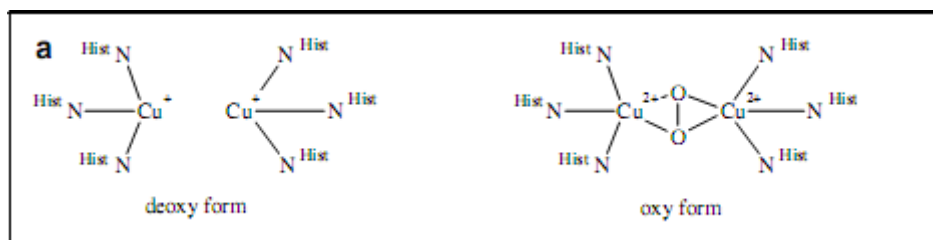
**SUMMARY**

In biological systems, the oxidation of organic substrates with molecular oxygen is often carried out by multicopper enzymes, which serve as highly efficient oxidation catalysts.

Since the report on the crystal structure of catechol oxidase by Krebs and co-authors [9] published a few years ago, the interest in model compounds of this biocatalyst, as well as for other type-3 copper enzymes (e.g., hemocyanin and tyrosinase) has taken a new turn. Tyrosinase catalyses the aerial oxidation of monophenols to o-diphenols (cresolase activity) and the oxidation of o-diphenols (catechol) to o-quinones (catecholase activity).



The crystal structure of catechol oxidase, revealed that the active site consists of dinuclear copper centres. Each of the two copper centres is bound in a complex manner by three histidines



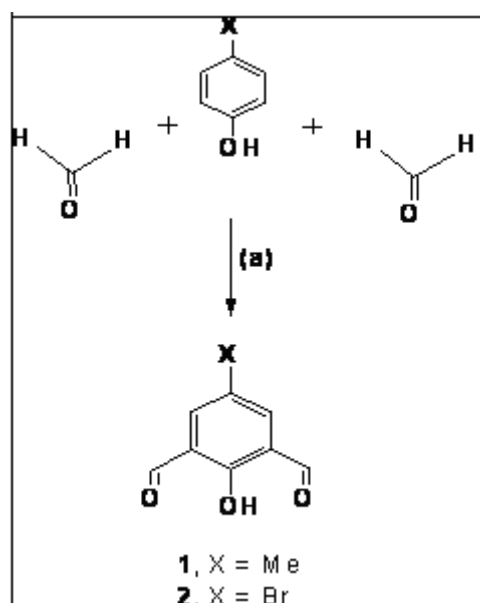


Essentially one is attempting to imitate aspects of the active sites of catechol oxidase such as spectral properties, structural features and reactivity. Also to use the information gained to develop and correlate the structure and function of the biomolecule.

It is also of interest to study the effect of “Soft” donor atoms such as bromine atom incorporated into the organic moieties or the effect of counter ion, as well as the effect of substrate on the catecholase activity.

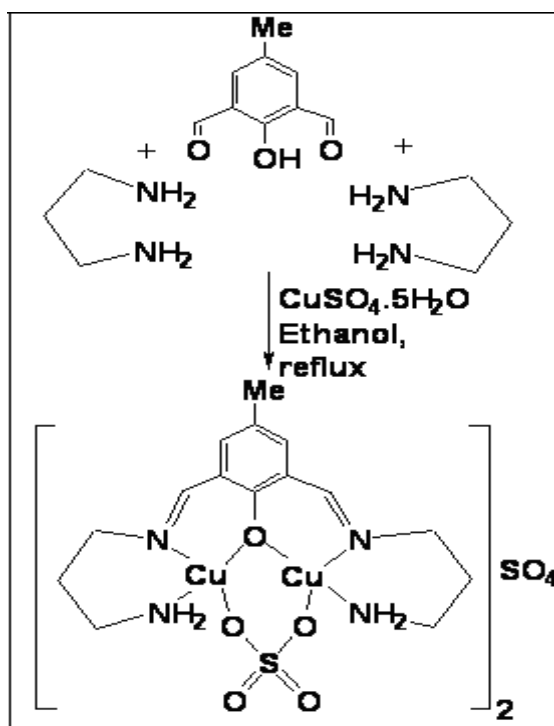
In conclusion, a series of binuclear copper(II) complexes generated from *para*-substituted phenols have been synthesized as potential structural and functional models for the active sites of catechol oxidase. The catecholase activity of these binuclear compounds has been measured in order to get insight into the possible role of the basicity of donating, nitrogen-containing ligands.

The syntheses involve two main steps, first step is the synthesis of the appropriated dialdehydes and the second is the complexation method.

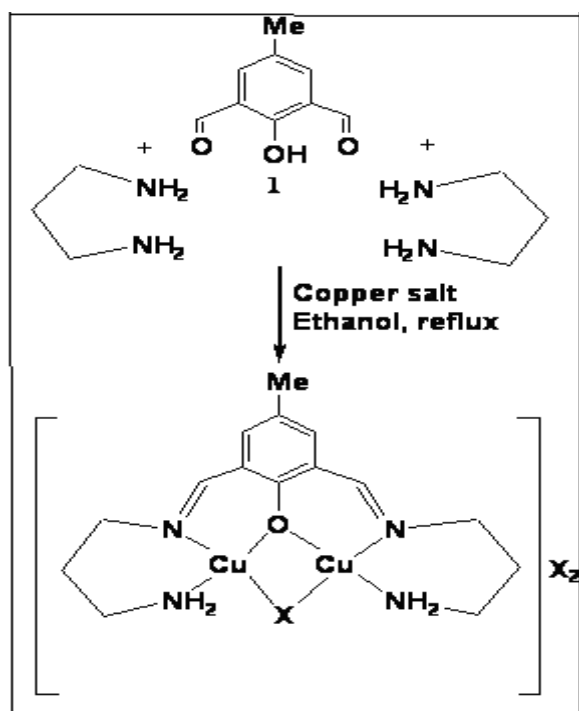


(a) = i –  $\text{CH}_3\text{COOH}$ , ii – HMTA, iii – reflux  $\text{Vh}$ , iv –  $\text{H}_2\text{SO}_4$ ,  $\text{H}_2\text{O}$ .

**Scheme 1.** Synthesis of 1, 2-diformyl-4-methylphenol (*dfmp*, 1) and 2, 2-diformyl-4-bromophenol (*dfbp*, 2).

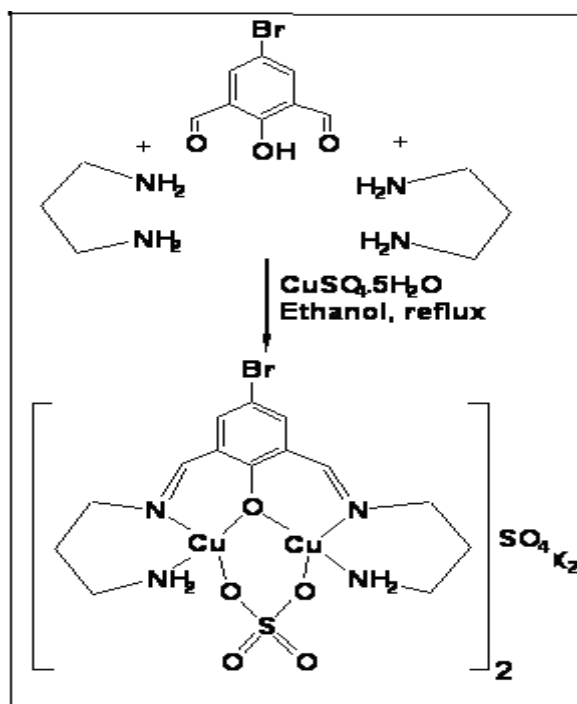


**Scheme ٢.** Synthesis of dinuclear copper complex **٣**.

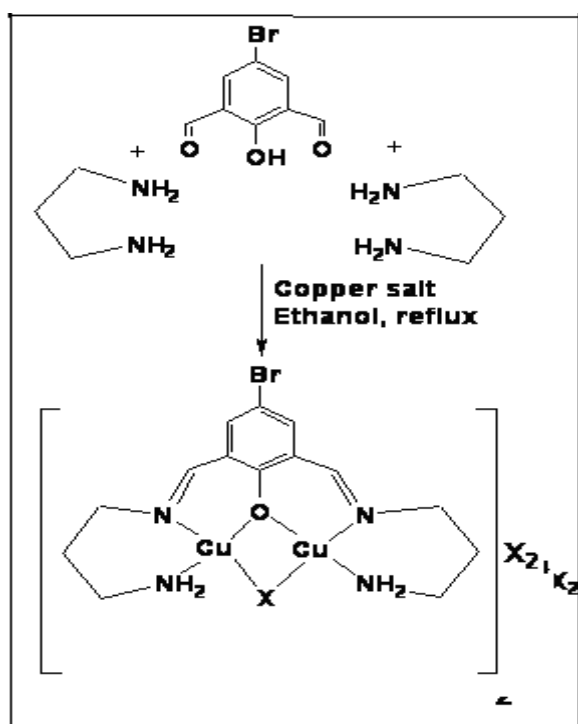


Compound	X
<b>٤</b>	Br
<b>٥</b>	NO <sub>r</sub>

**Scheme ٣.** Synthesis of dinuclear copper complexes **٤** and **٥**.



Scheme ٤. Synthesis of dinuclear copper complexes ٦



Compound	X
٧	Br
٨	NO <sub>r</sub>
٩	Cl

Scheme ٥. Synthesis of dinuclear copper complexes ٧, ٩.

This reaction involves a condensation between the dialdehyde and the diamine. These complexes have been fully characterized by spectroscopic methods, thermogravimetric methods as well as elemental analysis.

The catalytic properties of the copper(II) complexes have been evaluated for oxidation of catechol substrates in the presence of dioxygen, under mild and environmental friendly conditions. The results can be concluded in the following points:

- A. The oxidation of  $\xi$ -*tert*-butylcatechol or catechol by the complexes showed that these complexes have catalytic activity towards both substrates  $\xi$ -*tert*-butylcatechol and catechol.
- B. The complexes containing ligand L<sup>١</sup> were observed to have less catecholase activity in comparison to complexes containing L<sup>٢</sup>.
- C. The catecholase ( $\xi$ -*tert*-butylcatechol as substrate) activity in case of complexes containing ligand L<sup>٢</sup> is in the following order: Br<sup>-</sup> > NO<sub>٢</sub><sup>-</sup> > SO<sub>٤</sub><sup>-٢</sup> > Cl<sup>-</sup>. On the other hand in case of complexes containing ligand L<sup>١</sup>, the activity is in the following order NO<sub>٢</sub><sup>-</sup> > SO<sub>٤</sub><sup>-٢</sup> > Br<sup>-</sup>.
- D. The catecholase (catechol as substrate) activity in the case of complexes containing ligand L<sup>٢</sup> is in the following order: Br<sup>-</sup> > NO<sub>٣</sub><sup>-</sup> > SO<sub>٤</sub><sup>-٢</sup>. On the other hand in case of complexes containing ligand L<sup>١</sup>, the activity is in the following order Br<sup>-</sup> > SO<sub>٤</sub><sup>-٢</sup> > NO<sub>٣</sub><sup>-</sup>.