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Editorial

Praise be to Allah and peace and prayers be upon his messenger.

Dear readers, we thank you for your good response and acceptance of the previous issues of the magazine .We also thank you for your opinions and suggestions for improving the magazines issues and here we are thanks Allah and his success. We look at you the seven volume of Merowe University of Technology/Abdulatif Alhamad. We all determined to continue efforts and take into account the development, innovation and improvement of magazine in form and contents. As we placed this volume in your hands, we appeal to you to continuously communicate with the magazine and provide it through the scientific papers that society needs in all fields, which we hope will satisfy you.

Editorial Board



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“Investigating the Reasons of Test Anxiety among EFL Learners”

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Abstract

This study aims to investigate the reasons of test anxiety among EFL learners. The data collected via a questionnaire including (34) items prepared by the researchers and translated into Arabic language to fit with students understanding and awareness. The tool was distributed to University of Dongola - College of Education first level students, (100) students were selected randomly from among (350) through the process of the stratified random sample, for the academic year (2019-2020). The Descriptive Analytic Method was used to accomplish the statistical analyses process of the primary data; the statistical results proved that test anxiety is caused by various elements; which are directly associated with EFL learners themselves (confidence, academic standard and their background in the target subject), besides parents' attitudes toward the students make them feel sorrow, afraid of failure and blame, surrounding environment and timing. To enhance efforts of solving ELT test anxiety problems these factors must be treated, the relationship between these factors and their impact on each other is a vital point of study that the researcher recommends.

Keywords: Test Anxiety. Resonse EFL Learners.

مستخلص

تهدف الدراسة إلى تقصي اسباب مشكلة قلق الإختبار لدى دارسي اللغة الإنجليزية كلفة اجنبية إستخدام الباحثان: استبيان لقياس قلق الإختبار اعدده الباحث وترجمه إلى اللغة العربية لكي يتناسب مع مستوى إستيعاب الطلاب؛ تكون الاستبيان من (34) فقرة موزعة إلى المحاور الاربع. اجاب على اسئلة الاستبيان (100) طالب وطالبة من طلاب جامعة ___ دنقلا كلية التربية ___ مروى ___ المستوى الاول. اعتمد الباحث العينة العشوائية الطبقية في إختيار عينة الدراسة، وكانت (100) طالب وطالبة من بين (350) بكلية التربية للعام الدراسي (2019-2020). إستخدم الباحثان منهج التحليل الوصفي لتحليل البيانات الاولية. اثبتت النتائج الإحصائية للدراسة أن لقلق الإختبار اسباب عديدة، منها ما هو مرتبط بالدارسين انفسهم؛ كإندعام الثقة او نقصها، المستوى الاكاديمي، والخلفية المعرفية بالمادة. وعوامل مرتبطة بمواقف الوالدين تجاه الدارسين متمثلة في الضغط عليهم واللوم المبالغ عند الفشل، وعوامل اخرى كالبيئة الدراسية و وقت الإختبار. اوصى الباحث بمعالجة هذه العوامل لحل مشكلة قلق الإختبارات لدى دارسي اللغة الإنجليزية كلفة أجنبية، كما اوصى بدراسات متعمقة في العلاقة بين مسببات قلق الإختبار وتأثير كل منهما على الاخر.

Statement of the Problem

The researchers noticed that some of the students are good in English language and well participants in their classes yet they feel very anxious during or before the test, which influences their achievement. In this study the researchers tend to investigate this phenomenon, identify the reasons and find out effective solutions, suggestions and recommendations.

Study Significance:

The study tends to diffuse the awareness of test anxiety symptoms, reasons. The importance of this study lies on revealing the reasons of test anxiety among EFL learners as well as finding out effective solutions.

Study Objectives

- 1-To give clear illustration about the concept of test anxiety.
- 2-To identify the reasons of test anxiety.
- 3-To diffuse the awareness of test anxiety reasons.

Study Questions

- 1-To what extent do families contribute in creating the test anxiety problem?
- 2-To what extent does students' information and knowledge about the certain subject cause in the test anxiety problem?
- 3-How far does the surrounding environment and time have a role in the raising of test anxiety problem?
- 4-To what degree does Lack of confidence cause anxiety problem?

Study Hypotheses:

- 1-Families' attitudes towards their students contribute in creating test anxiety.
- 2-Students' standards on the certain subject knowledge and background have a great role in the test anxiety.
- 3-Lack of confidence among EFL learners is one of test anxiety factors.
- 4-Surrounding environment and timing have a role in test anxiety.

Study Method:

The study used the descriptive analytic method to investigate the reasons of test anxiety, where a questionnaire has been distributed among participants for data collection.

Limits of the Study

The study is limited in investigating the reasons of test anxiety. The population is University of Dongola Faculty of Education Merowe Freshmen for the academic year (2019-2020).

Related Literature Review:

Examination stress and test anxiety are pervasive problems in modern society. Alleviating test anxiety will serve to counteract the diminished access to educational and occupational opportunities that are frequently experienced

by test-anxious individuals [1]. It is almost impossible to live without anxiety or fear. It is widespread. A person feels anxious regularly, although, for each of person different events, situations or relationships will make him/ her feels anxious. [2] One of the main and the natural concerns for an educational scientist is to establish a good learning environment, hence, to make students attain academic success. Test anxiety is one of the main barriers to reach this goal. Feelings of anxiety toward examination have existed ever since examinations have been used in the educational settings and are frequently expressed in today's competitive academic environment [3].

Research was carried out investigating the relationship of test anxiety with different variables such as attributional styles, learning strategies, study skills, evaluative threat, academic performance and achievement i.e. [4], [5], [6], [7], [8]. Researches findings suggested that test anxiety decreases academic performance of the students [9], [10] and that leads them performing poorly and experiencing obstacles during test situations [11].

During or before the process of testing students may feel some worry because of different elements (lack of focusing, lack of confidence, fear of failure, his/her family attitudes towards his/her result, surrounding environment, timing,.....etc.) these elements impact negatively on students psychological instance which increase their anxiety about the exam, subsequently it effects on the students' academic achievement .

Anxiety:

Anxiety is defined as a mental phenomenon which is experienced by all of the humans during their life. Although, anxiety is the cause of our inappropriate performance and many mistakes, but a normal level of anxiety seems to be necessary for hardworking and being responsible. [12]

Anxiety is an unpleasant feeling that all experience at times. It is a word often used to describe when a person feel 'uptight', 'irritable', and 'nervous', 'tense', or 'wound up'. When people are anxious they normally experience a variety of uncomfortable physical sensations. These include: Increased heart rate, Muscular tension, Sweating, Trembling Feelings of breathlessness. Anxiety is a type of fear usually associated with a perceived threat or something going wrong in the future, but it can also arise from something happening right now. Unlike fear itself, which is a response to an immediate danger, anxiety is an ongoing sense of worry without a specific cause.

Normal anxiety:

[13] A certain amount of anxiety is normal and necessary; it can lead people to act on their concerns and protect them from harm. In some situations, anxiety can even be essential to the survival. If student were standing at the edge

of a curb, for example, and a car swerved toward him/her, she/he would immediately perceive danger, feel alarmed and jump back to avoid the car. This normal anxiety response, called the “fight or flight” response, is what prompts a person to either fight or flee from danger.

When a person feel danger, or think that danger is about to occur, the brain sends a message to the nervous system, which response by releasing adrenaline. Increased adrenaline causes feeling of alert and energetic, and gives a spurt of strength, preparing to attack (fight) or escape to safety (flight). Increased adrenaline can also have unpleasant side-effects. These can include feeling nervous, tense, dizzy, sweaty, shaky, or breathless. Such effects can be disturbing, but they are not harmful to the body and generally do not last long.

Types of Anxiety:

Different types of anxiety have their characteristics and cause the body to react in a variety of ways:

1. Agoraphobia: Is intense anxiety which triggers a panic response, commonly associated with open spaces. The onset of agoraphobia is usually between the ages of 18 and 35.
2. Generalized Anxiety Disorder: Is the most commonly diagnosed anxiety disorder and usually affects young adults. While feelings of anxiety are normal, people find it hard to control them to an extent that limits their daily life.
3. Panic: Is an exaggeration of the body’s normal response to fear, stress, or excitement. Symptoms include a pounding heart, feeling faint, sweating, shaky limbs, nausea, chest pains, breathing discomfort, and feelings of losing control.
4. A phobia: Is an intense and irrational fear of a specific object or situation which makes the person experiencing it goes to great lengths to avoid it.
5. Post-Traumatic Stress Disorder or Syndrome: Is a reaction to highly stressful or traumatizing events. People commonly experience flashbacks, panic attacks, nightmares, or avoid situations that might trigger memories of the event.
6. Obsessive-Compulsive Disorders: Is characterized by unwanted intrusive and repetitive feelings that make the individual feels driven to do something to get rid of the obsessive thoughts

Anxiety Effects

Anxiety leads to changes in three “systems of functioning

1. Cognitive: Attention shifts immediately and automatically to the potential threat. The effect on a person’s thinking can range from mild worry to extreme terror.
2. Physical: Effects include heart palpitations or increased heart rate, shallow breathing, trembling or shaking, sweating, dizziness or lightheadedness, feeling “weak in the knees,” freezing, muscle tension, shortness of breath, and nausea.

3. Behavioral: People engage in certain behaviors and refrain from others as a way to protect themselves from anxiety (e.g., taking self-defense classes or avoiding certain streets after dark). [13]

Symptoms of Anxiety and Test Anxiety

Among types of anxiety, test anxiety is a psychological response; consist of worry, stress, emotionality, lack of confidence, fear of failure, and interference that can be experienced by an individual before, during, and after an exam or similar situations [14]. Like the other kinds of anxieties, a certain level of the test anxiety could be push students to work harder and learn better, but mostly the high level of this bad feeling causes psychological distress, low performance, underachievement, demotivation, etc. in the students. Personal factors like insufficient studying and defects in test skills are not the only causes of test anxiety, and the organization's performance could cause this [15].

While test anxiety symptoms may be different in rate or types, they can be categorized as following:

1. Physical symptoms: Headache, nausea, diarrhea, excessive sweating, shortness of breath, rapid heartbeat, light-headedness, and feeling faint can all occur. Test anxiety can lead to a panic attack, which is the abrupt onset of intense fear or discomfort in which individuals may feel like they are unable to breathe or having a heart attack.

2. Emotional symptoms: Feelings of anger, fear, helplessness, and disappointment are common emotional responses to test anxiety.

3. Behavioral and Cognitive symptoms: Difficulty concentrating, thinking negatively, and comparing yourself to others are common symptoms of test anxiety.

Tests:

A test is a procedure designed to elicit certain behavior from which one can make inferences about certain characteristics of an individual. Language test is the practice proficiency of an individual in using practice language. It is an experiment to find out more information about it [16]. The term test is constructed to refer to those aspects of knowledge or skills possessed by the candidate; it is a universal feature of social life, [17].

Test Anxiety

Test-anxiety is a type of performance anxiety is a feeling someone might have in a situation where performance really counts or when the pressure is on to do well. Test-anxiety is defined as the "set of phenomenological, physiological, and behavioral responses that accompany concern about possible negative consequences or failure on an exam or similar evaluative situation" [1]

.Test anxiety is a sort of anxiety that appears in a specific situation that has symptoms like general anxiety, such as sweating, heartbeat increase, uneasi-

ness, worry, doubt, hand trembling, and dizziness [18]. Although some anxiety before test-taking is normal and even necessary to do well, test anxious students experience crippling anxiety that can limit their ability to perform to their real level of proficiency.

[19] Defined test anxiety as a type of “self-preoccupation” which is determined by understatement and feeling doubt about one’s capabilities. It is a kind of anxiety associated with exam situations, which give rise to an individual’s feelings of annoyance and nervousness; it is a bad emotional instance happened before or/and after the exam characterized by tension and fear about the exam.

The researcher believed that test anxiety is a nagged frame of mind with some emotional and intense tension before the test. It might occur suddenly during the test (when the student finds difficult questions or think about failure).

Teachers Attributes and Classroom Behaviors

Teachers may bear an important influence on students’ test anxiety by conveying differential expectations or responding differently to students high and low in test anxiety. Teachers who set overly high standards and/or criticize students too harshly should be more likely to foster anxiety in their students than other teachers [20]. Furthermore, teachers typically form expectations about their students’ academic abilities and competencies, and these expectations, in turn, tend to influence their behavior toward their students. Hard test data are generally the most important sources of information teachers use to evaluate and form expectations of students [21].

Students who are highly anxious, and consequently score more poorly on classroom and standardized tests, will be evaluated lower, on average, by their teachers. The low scholastic expectations conveyed to test anxious children may reinforce their general feelings of inadequacy, thus exacerbating the existing anxiety level. As such, teachers often continue and strengthen trends initiated by parents’ interactions with their anxious children, namely, poor problem-solving strategies and high dependence on adults in evaluative problem-solving situations [22].

Test anxious students may experience a qualitatively different form of classroom interaction with their teachers compared to their low test anxious counterparts. Teachers may employ qualitatively different and less favorable instructional, disciplinary, and social cues in their classroom interactions with test anxious students, further decreasing these students’ ability perceptions and raising their test anxiety levels. Furthermore, high test anxious children may interpret feedback from teachers differently than their low test anxious counterparts because of their greater sensitivity to adult reaction [23].

Educational Solutions to Test Anxiety

Some [24] suggest many educational solutions to test anxiety. These include the following:

- Modifying classroom evaluative practices to make them less threatening and stressful for students, this may be accomplished by deemphasizing competition and evaluative atmosphere, liberalizing time limits, making tests fairer and less complicated, providing more successful experiences on exams, etc.
- Changing the grading system by avoiding later grading and report cards in the elementary school years, Students should be provided with separate comments relating to their intellectual performance and personal and social behavior and development.
- Preparing children for the pressures inherent in competitive grading at later ages, and teach students to deal with evaluative pressure through test coping programs “Individualizing the learning environment”.

Relaxing Time Pressure:

The test environment is more likely to be perceived as non-threatening and supportive when examinees are encouraged to take their time, thus reducing debilitating anxiety and enhancing performance. Thus, when anxious examinees are under no pressure to hurry, and can consequently review test answers and correct mistakes, the performance of high-test-anxious students should increase dramatically, reaching essentially the same levels as those enjoyed by low-test-anxious students.

Allowing liberal time limits during testing, where possible, is viewed by some experts to be a particularly helpful optimizing strategy [25]. Thus, in view of both experimental data and examinee feedback in true-to-life test situations, test constructors should attempt at eliminating excessive time pressures and allow liberal extensions in time limits so that examinees will not be too hard-pressed in reaching and responding to all test items.

Methodology

This current study entitled “Investigating the Reasons of Test Anxiety among EFL Learners”. This chapter will be devoted to the methodology that followed by the researchers to investigate the collected data; the researchers had adopted the Descriptive Analytic method, because it has great value in providing facts on which professional judgment can be based. The researchers identified the hypothesis of the study and selected the data instrument which is represented in a questionnaire; first the data has been collected, second analyzed and discussed.

Subject

The population of the study was represented in the EFL learners in University of Dongola Faculty of Education - Merowe first level students, males, and females for the university year 2019-2020. This study was based on a random sample, primary data collected through a questionnaire distributed randomly among (100) students, as well the test has been answered by other group consist of (100) students currently registered in the academic year (2019-2020) first level-first semester.

Tool of the Study

Questionnaire

The researchers designed a questionnaire that consists of (34) items then translated into Arabic language to fit with students' level of understanding and awareness, the questionnaire was distributed into the four axes addressed as hypotheses, as in the table below.

Table (1) shows the distribution of the questionnaire to the Axes.

Hypothesis		Items
First	.Families' attitudes toward their students contribute in creating test anxiety	1-5
Second	Students' standards on the certain subject knowledge and background .have a great role in the test anxiety	6-13
Third	.Lack of confidence among EFL learners is one of the test anxiety factors	14-26
Fourth	.Surrounding environment and timing have a role in test anxiety	27-34

Instrument Validity and Reliability

Validity

To achieve the face validity, the researchers showed the instruments to experts who added some amendments on the questionnaire.

To measure the validity subjective, and the fitness with the research population, the researchers did a pilot study on a sample that consists of (30) students (males and females), then the researcher relied upon the coefficient of the internal consistency, and then elicited the coefficient linear correlation between the degrees of the items and the total degree of their axes. The analyses resulted as in the table below:

Table (2) the coefficient of the correlation between items' degrees and their axes total degree.

Fourth Axis		Third Axis		Second Axis		First Axis	
The Correlation	No						
**0.61	27	**0.59	14	**0.75	6	**0.67	1
**0.70	28	**0.67	15	**0.48	7	**0.52	2
**0.73	29	**0.74	16	**0.46	8	**0.57	3
**0.68	30	**0.75	17	*0.35	9	**0.56	4
**0.69	31	**0.73	18	**0.69	10	**0.73	5

**0.75	32	**0.50	19	**0.82	11		
**0.71	33	*0.36	20	**0.78	12		
**0.67	34	**0.68	21	**0.70	13		
		*0.40	22				
		**0.66	23				
		**0.42	24				
		**0.65	25				
		*0.33	26				

Questionnaire Reliability

The researchers used the two ways of (Spearman & Brown) and (Cronbach alpha) to check the reliability of the measurement.

Table (3) correlations of the measurement reliability

Axes	Items	Sample	Cronbach Alpha correlation	Sper & Bro correlation
First	05	30	0.62	0.75
Second	08	30	0.79	0.77
Third	13	30	0.83	0.84
Fourth	08	30	0.84	0.81

Procedures

To investigate test anxiety reasons the researchers designed a survey questionnaire where the instrument was showed to five associated professors for the purpose of arbitrating and reviewing. The study was applied in university of Dongola Faculty of Education Merowe; the sample was (100 students) freshmen, male and female currently registered in the academic year 2019-2020.

Data Analysis and Discussion

Testing Hypotheses Result

Table (4) first hypotheses result

No	Statement No	Mean	.Std. Dev	Touchstone	T.t value	Df	Prob Value	Conclusion
100	8	16.88	2.58	16	3.42	99	0.01	High

The first hypothesis is “families’ attitudes toward their students contribute in creating the test anxiety”, the T. test value for the difference between the mean and students’ opinions, and the affection of their families on test anxiety is (10.30), and the touchstone (10) is (1.48). It is not statistically significant, this indicates families’ affection and contribution on the test anxiety is medium.

Table (5) second hypothesis result

No	Statement No	Mean	.Std. Dev	Touchstone	T.t value	Df	Prob Value	Conclusion
100	8	16.88	2.58	16	3.42	99	0.01	High

The second hypothesis is “students’ standard on the certain subject knowl-

edge and background have a great role in test anxiety” the results showed that the T-test value for the difference between the mean and students’ opinions and the impact of the standard, knowledge, and background upon test anxiety is (16.88), and the touchstone (16) is (3.42). It’s statistically significant, i.e. students’ standards on a certain subject, background, and knowledge cause mainly in test anxiety.

Table (6) third hypothesis result

No	Statement No	Mean	.Std. Dev	Touchstone	T.t value	Df	Prob Value	C o n - clusion
100	13	26.76	3.73	26	2.04	99	0.04	High

The third hypothesis is “lack of confidence among EFL learners is one of test anxiety factors” the results proved that lack of confidence considers one of the highest elements which cause test anxiety. The T. test value for the difference between the mean and students’ opinions and the affection of lack of confidence on test anxiety is (26.76), and touchstone (26) is (2.04) it is statistically significant.

Table (7) fourth hypothesis result

No	Statement No	Mean	Std. Dev	Touchstone	T.t value	Df	P.Value	Conclu - sion
100	8	26.76	3.73	26	2.04	99	0.04	High

The fourth hypothesis is “surrounding environment and timing have a role in test anxiety”. The T. test value for the difference between the mean and students’ opinions and the affection of surrounding environment and timing on the test anxiety is (16.47), and the touchstone (16) is (1.55). It isn’t statistically significant, this indicates the effect of the surrounding environment and timing is medium and sometimes cause test anxiety.

Conclusion and Recommendation

This part deals with the overall summary of the research study which has findings, suggestion and recommendations.

Findings

The result found that ELT test anxiety reduces EFL learners’ achievement, and found that test anxiety happens through different elements. The following are the main finding of the research:

- 1.Families contribute to some extent in creating test anxiety.
- 2.Low standard, background, and lack of knowledge in a certain subject cause test anxiety.
- 3.Lack of self-confidence makes hesitation in performance, and lead to test anxiety.
- 4.The poor surrounding environment and test timing are reasons for test anxiety.

5. Test anxiety reduces the students' achievement as it is proved by the statistical result of the instruments.

Recommendations

1. Families mustn't press too much on students to study for long time.
2. Teachers should encourage students and change their unpleasant attitudes through giving them nice ideas about the tests.
3. Tests must be performed in good and comfortable environment.
4. Invigilators should avoid annoying and too much movement inside tests' hall.

Suggestions

Additional studies are needed to:

1. Investigating ELT test anxiety and its impact upon EFL learners' performance
2. Investigating ELT teachers' role in creating test anxiety
3. Investigating the causes of ELT test anxiety "teachers perspective"
4. Investigating studying difficulties contribute in EFL learners' test anxiety
5. The difficulties that encounter ELF learners in controlling their test anxiety
6. Investigating the factors that rise test anxiety and ways of diminish it
7. Investigating the overlapping of teaching process elements and its impact in creating test.

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Effects of Drying Methods, Husk, Decortications and Media on Mango (*Mangifera indica* .L) Seed Germination and Seedling Development.

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Abstract:

In this study effects of drying methods, husk, decortication and media on mango (*Mangifera indica* .L) Days needed for seed germination and seedling development was evaluated. The experiments were conducted in a Randomized Complete Block Design (RCBD) at the nursery of Merowe locality-Northern Sudan , during the period from July to September 2020. The fresh and healthy seeds of the variety Kitchener, was used in this study. All the dried mango seeds were germinated in 4 replicates for each, in 4 types of seedbed media, include: sawdust, compost, wheat hay and traditional media (50% sand and 50% mud). Results of this study showed that the seed husk and decortication had a significant effect on seed germination, seedling height (cm), number of seedlings and number of leaves of mango (*Mangifera indica* .L) . Results for the effects of media on seed germination, seedling height (cm), number of seedlings and number of leaves of mango (*Mangifera indica* .L) , showed a significant difference in seed germination only between wheat hay and saw dust . With the seedling height (cm), a significant difference was observed only between compost and sawdust . With the number of seedlings, a significant difference has been recorded between compost and wheat hay, between wheat hay and traditional media. With the number of leaves, a significant difference has been found between all of the media. Results for the effects of interaction between media and seed husk on seed germination, seedling height (cm), number of seedlings and number of leaves of mango (*Mangifera indica* .L) seeds, revealed a significant effect of interaction between germination of seeds with husk in sawdust and traditional media. With the seedling height in seeds with husk, significant interaction has been found between sawdust and traditional media, while with the seedling height in seeds without husk, significant interaction was found between compost and sawdust.

Key words: Husk, . decortication , mango germination and seedling .

المستخلص :

في هذه الدراسة تم تقييم تأثير طرق التجفيف و غلاف البذرة و اوساط الزراعة علي انبات البذور و نمو البادرات في المانجو (*Mangifera indica* .L). اجريت التجارب في مشتل محلية مروى بالولاية الشمالية - في الفترة من شهر يوليو - سبتمبر 2020م. تم تصميم التجارب في قطاعات كاملة العشوائية (RCBD) ، وذلك باستخدام بذور مانجو سليمة و طازجة للصنف كتشنر، تم زراعة جميع البذور المجففة. ، في 4 مكررات في 4 اوساط انبات شملت : سماد كومبوست ، نشارة خشب ، تبن قمح ووسائط تقليدية (50% رمل و 50% تبن) . اظهرت نتائج الدراسة أثرا معنوياً لغلاف البذرة علي انبات البذور وارتفاع البادرات و علي عدد البادرات و عدد الاوراق. بالنسبة لتاثير وسائط الزراعة علي انبات البذور و ارتفاع البادرات و عدد الاوراق في بادرات المانجو فقد جاءت معنوية بين تبن القمح و نشارة الخشب بالنسبة لانبات البذور. أما بالنسبة لارتفاع البادرة فقد تلاحظت فروقات معنوية بين الكومبوست و نشارة الخشب ، أما فيما يتعلق بعدد البادرات فقد جاءت الفروقات المعنوية بين الكومبوست و بيئة تبن القمح وكذلك بين بيئة تبن القمح و البيئه التقليديه. عدد الاوراق في البادرات أظهر فروقات معنوية بين كل البيئات. التأثير التداخل بين اوساط الزراعة و غلاف البذرة فقد ظهرت فروقات معنويه وذلك عند انبات البذور بغلافها في بيئات نشارة الخشب و البيئه التقليديه، فيما يتعلق بارتفاع البادرة في البذور بغلافها فقد حدثت فروقات معنويه بين بيئة نشارة الخشب و البيئه التقليديه ، أما التأثير المتداخل الأخير وذلك لارتفاع البادرة للبذرة بدون غلاف فقد جاء معنوياً بين الكومبوست و نشارة الخشب .

الكلمات المفتاحيه : المانجو- البذرة - التجفيف - الانبات - ازالة الغلاف .

Introduction

Mango (*Mangifera indica* .L) is one of the most economically important fruit which is known as the king of Fruits or the Queen of Fruits .The mango is one of the most important and widely cultivated fruits of the tropical world. Mango production in many countries plays a major role in their national economy .Such role could be achieved with establishment of well-organized mango improvement programs. Mango is the first most important fruit crop in Sudan and it is commercially grown in every state: South Kordofan. Sinnar. Blue Nile. West Darfur. South Darfur and Kassala are the leading commercial producers of mango. The climatic and environmental diversity in Sudan helps the production of mangoes for up to 10 months a year. and the cultivated area is estimated at about 700.000 acres distributed in different regions in the center. south and west of the country. where 36 varieties are produced. Although mango production continues for 10 months a year. the period between December and March is considered golden for exportable mangoes. which have a favorite flavor and different sizes. some types weighing more than one kilogram per piece(1). Botanically. Mango (*Mangifera indica* .L) is belongs to the family Anacardiaceae . Mature mango seeds have a high moisture content which may cause the seeds to quickly lose their viability in storage. this why mango is traditionally propagated by vegetative methods. The aim of the present study was to obtain information about seed germination and seedling development that could facilitate nursery production of mango seedlings for orchard establishment in the northern state of Sudan. particularly in Merowe locality.

the site of the experimental study, (southeast of the northern state, between the longitude 31 north and latitude 18 east) . Merowe locality is distinguished by the available and abundant resources available from a large huge water resources of manor water and a huge reservoir of groundwater, as well as good agricultural lands from adjacent lands to the Nile and vast lands from the upper gears and also the northern state has a climate that is considered one of the most important factors for the success of mangoes production.

Objectives of the study:

These objectives are as follows:

- 1- To study the effects of drying methods on germination of mango (*Mangifera indica* .L) seed.
- 2-To investigate the effects of husk (seed coat) on germination of mango (*Mangifera indica* .L) seed.
- 3- To determine the suitable medium for mango (*Mangifera indica* .L) seed germination and seedling growth.

Literature Review

Mango (in general):

Worldwide, there are several hundred cultivars of mango. Depending on the cultivar, mango fruit varies in size, shape, sweetness, skin color, and flesh color which may be pale yellow, gold, green, or orange[1] A wide range of fresh, mango cultivars are now consumed worldwide and are available year round [3]. The mango fruit is a kidney-shaped juicy drupe with size 5-25 cm in length and a few gm. to 1.8-2.26 kg in weight. The seed is large, flattened, kidney-shaped central stone constituting ~ 20% of the fruit weight. Seeds are either mono-embryonic or poly-embryonic. [4]. Mango trees grow readily from seeds, with germination success highest when seeds are obtained from mature fruits. [2] .Each mango fruit has a single compressed-ovoid seed encased in a stony endocarp, varying in size/shape with two fleshy cotyledons. The seed is large, flattened, kidney-shaped central stone contains one or more large, starchy embryos, producing several seedlings that are identical but not always true to the parent type and can constitute up to 20% of fruit weight. It is impossible to distinguish true-to-type from zygotic seedlings from the same fruit. Some seedlings produce numerous tiny, parthenocarpic fruits (fruit development without fertilization) which fail to develop and abort. Each seed contains either one embryo (the so-called mono-embryonic cultivars) or more than one embryo (the so-called poly-embryonic cultivars), producing several seedlings without fertilization pollination. Most of the seedlings will be nuclear (non-zygotic embryos produced from nuclear tissue – clones of the mother tree) as seedlings which have originated vegetatively, they are mostly true-to-

type and genetically identical with the mother tree. Most Indian cultivars are mono-embryonic, while generally cultivars from Indonesia, Thailand and the Philippines are poly-embryonic[5]

Seed Germination and Seedling Development.

Germination is usually the growth of a plant contained within a seed; it results in the formation of the seedling. It is also the process of reactivation of metabolic machinery of the seed resulting in the emergence of radicle and plumule. Seed germination may be defined as the fundamental process by which different plant species grow from a single seed into a plant. This process influences both crop yield and quality[6]. The most important factors affecting seed germination include: water, oxygen, right temperature and sometimes light or darkness [7]. Some seeds have impermeable seed coats that prevent oxygen from entering the seed, causing a type of physical dormancy which is broken when the seed coat is worn away enough to allow gas exchange and water uptake from the environment [8,9] Reported the steps of how we can plant the seed that hides inside the husk of a mango as follows:

1. Take a very ripe mango, and cut the fruit away from the husk at the center of the mango without cutting through the husk. Remove any leftover fruit from the husk.
2. You can prepare a mango seed for planting by clearing all the fruit away from the husk and then cutting open the husk. Remove the seed inside and throw away or compost the husk.
3. Cut the husk open with a sharp knife. Do this carefully, as you don't want to damage the seed that is inside.
4. Remove the seed and throw the husk away. The seed will be in the shape of a lima bean with a lighter area on top called the eye.
5. Fill a planting pot with potting soil. Be sure to use a pot with drainage holes.
6. Wet the soil a bit.
7. Make a small hole and place the seed inside the hole with its eye facing up.
8. Cover the seed with half an inch (1.27 centimeters) of soil. The seed should sprout within a few weeks.
9. Water your plant with lukewarm water whenever you see the soil is a bit dry. Mangos don't need a lot of water[9]. Seed germination and seedling development in the mango (*Mangifera indica* L. cv. Ruby) has been studied by [10]. They stated that Mango seeds taken from ripe fruit showed no dormancy. They germinated seeds at temperatures between 5 and 40 degrees C, but germination was most rapid near the upper end of this range (25-40 degrees C). The fresh seeds had a high moisture content (85%, dry weight basis) and quickly died on dehydration. The optimal temperature for growth of the seedlings

was close to 30 degrees C. High temperatures (40 degrees C) and temperatures below 15 degrees C were lethal. Growth of the stem occurred in successive flushes separated by rest periods. When the leaves of the preceding flush finished growing, the axis lengthened beneath the apical bud.

Media for Seed Germination and Seedling Development:

The sawdust (or wood shavings) is a by-product or waste product of wood-working operations such as sawing, sanding, milling, planing, and routing. It is composed of small chippings of wood [11]. Compost is a mixture of ingredients used to fertilize and improve the soil. It is commonly prepared by decomposing plant and food waste and recycling organic materials. The resulting mixture is rich in plant nutrients and beneficial organisms, such as worms and fungal mycelium. The benefits of compost include providing nutrients to crops as fertilizer, acting as a soil conditioner, increasing the humus contents of the soil, and introducing beneficial colonies of microbes that help to suppress pathogens in the soil [12]. Wheat straw is lignocelluloses mass owing to the presence of cellulose, hemicellulose, and lignin. Globally, wheat straw is most important by-product of wheat processing produced in larger quantity [13]. About 529 million tons wheat straw is generated every year in all over the world [14], whereas 5–7 million tons of wheat straw are produced in the UK every year but currently just 1% is traded [15]. Moreover, in all over the world and Europe, it is the amplest and the second most abundant and largest biomass feed stock after rice straw [16,17]. The research study “Mango seed germination in different media at different depth” was conducted in Japan, during 2010. The results indicate that both media and sowing depths had significant effect on various parameters. In case of different media the minimum days to germination 18.56 the maximum shoot length 5.56cm and maximum number of leaves 5.56 were recorded in soil+sand+fym. Similarly in case of different depth, the minimum days to germination 18.83, maximum shoot length 6.5cm and maximum number of leaves 5.5 were recorded at the depth 7.5cm. It is concluded from the study that mango seed sowing is best in soil+sand+fym in all respects e.g. days to germination, shoot length and number leaves as compared to other media (soil, soil+sand, soil+sand+fym+saw dust) and Mango seed sowing is best at the depth 7.5cm in all respects [19].

An experiment was conducted in the nursery at the Faculty of Agriculture University of Khartoum. The objective was to study the effect of different germination media and placement of mango seeds in the media on the germination and the characteristics of seedlings. The results proved significant effect of both Sawdust and Compost media on the rate and percentage of germination compared to that of Silt, Sand and its mixture. In addition to that

. the Sawdust and the Compost gave the highest percentages for the number . and length of roots ; while the Sand and the Silt gave the highest percentage of root diameter .However . there is a little effect of the germination media on the fresh and dry weights .The statistical analysis indicated that the highest germination rate when the seeds were set with positions of basal – end down and suture- end up . compared to other positions ; while the placement of seeds on the media has no significant effects on germination rates . number of leaves . number. length and sickness of roots as well as on fresh and dry weights The significant effect of interaction between the media and placement in the media was manifested by the increase in the length . number of roots and the plant height that occurred at both positions of basal-end down and suture-end up ; Presumably due to the incidence of early germination when the seeds were set in those two positions respectively . There were no significant effects on the other remaining factors. this might be attributed to the integrated effect of the three experimental parameters generally. the increase of early seedlings could be a plausible explanation for the occurrence of minor differences and discrepancies in same measurements.[19] Seed Decortication:

Decortication is the removal of the bark, husk, or outer layer, or peel of an object, or it is the act or process of removing the outer coverings (such as bark or husks) from something such as fiber or seed [20] .Mango (*Mangifera indica* L.) seeds are known as stone . mango stone is composed of outer hard shell . inner kernel and fibrous peel .The stone is accounting for 35 to 60% of the total fruit weight[21] .

A field experiment was carried out at the Indian Institute of Horticultural Research, Bengaluru during 2011–12 to study the effect of seed coat removal on mango seed germination. Muvandan recorded the maximum germination percent (85.4%), extent of polyembryony (2.76), and vigor of poly-embryonic mango seedlings. The cultivar recorded maximum number of leaves (10.3), whereas Bappakkai recorded maximum plant height (22.4 cm), stem girth (0.64 cm), leaf area (249.2 cm²), fresh weight (18.5 g) and dry weight (8.4 g), vigor index-I (1831.5 cm), and vigor index-II (685.7 g). With respect to treatments, seed coat removal was superior in all of the parameters, namely, initiation of germination (16.7 days), germination percent (78.3%), extent of poly-embryonic (2.50), plant height (19.5 cm), stem girth (0.62 cm), number of leaves per plant (8.7), leaf area (288.3 cm²), fresh weight (16.2 g) and dry weight (7.3 g), vigor index-I (1559.0 cm), and vigor index-II (581.8 g) compared to seed coat intact. There were no significant differences among the interactions of different treatments and cultivars(22).

Seed Drying:

An experiment was conducted at the Department of Horticulture, College of Agriculture and Natural Resources, Kwame Nkrumah University of Science and Technology, Kumasi (KNUST) Ghana from September, 2009 to April, 2010, to determine the most appropriate drying method, as a post-harvest practice, that would ensure high percentage germination of *Annona squamosa* seeds and its subsequent effect on seedling growth. The seeds were sun-dried, air-dried under shade or kept in the fresh state. Five treatments were used, namely, Freshly Sown seeds (Treatment 1, control), Seeds Air-Dried under Shade for one day (Treatment 2); Seeds Sun-Dried for one day (Treatment 3); Seeds Air-Dried under Shade for three consecutive days (Treatment 4); Seeds Sun-Dried for three consecutive days (Treatment 5). The experiment was arranged in a Completely Randomized Design (CRD) and replicated three times. Drying of *Annona squamosa* seeds had significant effect on earliness and number of seeds germinated. Air drying under shade and sun-drying for three consecutive days improved earliness to germination (26 days after sowing) and percent total germination but air-drying under shade had better effect on total seed germination, achieving 90% germination in 42 days after sowing. Furthermore, the prevailing ambient temperature of 30 °C–32 °C enhanced germination of *Annona squamosa* seeds. The study concluded that for optimum germination, seeds of *Annona squamosa* should be either air-dried or sun-dried for three consecutive days and be incubated in an ambient temperature range of 30 °C–32 °C. In terms of growth, seedling growth in leaf production was better from seeds sun-dried for three consecutive days [23]

Seeds of bull thistle, *Cirsium vulgare* (Savi) were exposed, to varying numbers of cycles of wetting and drying, in both Petri dishes and pots of soil, to investigate the effects of exposure to such cycles on subsequent germination of the seeds or emergence of the seedlings. Following exposure to the cycles, seeds in Petri dishes were set to germinate in one of four diurnal environments: 20:10°C alternating light and darkness, 20:10°C constant darkness, 30:15°C alternating light and darkness, or 30:15°C constant darkness. Total percent germination was reduced after exposure to eight cycles of wetting and drying, and germination rate was reduced after exposure to two or more cycles. Percent germination was reduced at the higher temperature but light availability had little effect. Reduction in seedling emergence in pots of soil after exposure to an intermediate number of cycles was greater than in Petri dishes but not as great with exposure to eight cycles. Seedling emergence patterns in pots that experienced any wetting-drying treatment were bimodal, with a second pulse of emergence several weeks after the termination of the cycles. This suggests that some seeds were induced into a dormant state through exposure to the cy-

cles of wetting and drying. Such induced dormancy may serve to prevent seed germination in the autumn, promoting an attenuated and intermittent pattern of germination[24].

Materials and Methods.

This experiment was conducted at the nursery of Merowe locality (between the longitude 31 North and latitude 18 East), during the period from July to September 2020, to study the effects of drying methods, husk, decortication and media on Mango (*Mangifera indica* .L) seed germination and seedling development.

Preparation of Seed Materials:

The seeds of mango (*Mangifera indica* .L), the variety Kitchener, was used in this study. 64 fresh and healthy mango seeds were dried for three days. 32 mango seeds were dried under direct sun shine and a number of 32 mango seeds was dried under shadow. The 32 mango seeds which dried under direct sun shine were divided into similar two groups. 16 mango seeds for each group. Husk (seed coat) of the first group which consists of 16 seeds was decorticated (removed), while husk of the other group which consists also of 16 seeds was not decorticated. The same treatments has been done with the mango (*Mangifera indica* .L) seeds dried under shadow. The 32 mango seeds which dried under shadow were divided into two similar groups .16 mango seeds for each group . Husk (seed coat) of 16 seeds was decorticated (removed), while husk of the other 16 mango seeds was not decorticated.

All the dried mango seeds, 32 with husk (seed coat) and 32 without husk (decorticated seed), were germinated in 4 replicates for each, in 4 types of seedbed media. Which include: sawdust, compost, wheat straw and traditional media (50% sand and 50% mud) were used as an alternative growth media in planting bags (scale 25 x15 cm), the bags were labeled and placed or laid down in a Randomized Complete Block Design (RCBD). The blocks were irrigated in the same day of sowing. The interval between irrigations was 2 to 3 days. All other needed cultural practices were done. Other Tools used are: planting cater, shovel.

Measured Parameters:

Data of seed germination and seedling development were collected every week for ten weeks.

Data collected in this study were:

- Days needed for germination of mango (*Mangifera indica* .L) seeds with husk.
- Days needed for germination of decorticated (without husk) mango (*Mangifera indica* .L) seeds.
- Height (cm) of mango Seedlings after seed emergency every week for a period

not more than ten weeks.

- Number of leaves per seedling after seed emergency every week for a period not more than ten weeks.

- Number of seedlings per mango seed after seed emergency every week for a period not more than ten weeks. .

Statistical Analysis:

For the purpose of statistical analysis. data were analyzed according to the Randomized Complete Block Design (RCBD) and mean separation was performed using Least Significant Difference at the level 5%.

Results and Discussion:

The fresh and healthy seeds of mango (*Mangifera indica* L), the variety Kitchener, were used in this study. 64 seeds were dried (32 seeds under direct sun shine and 32 seeds under shadow). All the dried mango seeds, 32 with husk (seed coat) and 32 without husk (decorticated seed) , were germinated in 4 replicates for each , in 4 types of seedbed media, include: sawdust, compost, wheat hay and traditional media (50% sand and 50% mud) . The medias were laid down in Randomized Complete Block Design (RCBD).

Data collected include : Days needed for seed germination of mango seeds with husk and without husk, seedling height(cm) , number of leaves per seedling and number of seedlings per mango seed that after seed emergency every week for a period of ten weeks . The fresh seeds had a high moisture content and quickly died on dehydration under direct sun shine which may be due to the high temperature . due to this , the data of germination under direct sun shine was excluded for the purpose of statistical analysis. this agreed with (10). They stated that the fresh seeds of mango had a high moisture content (85% dry weight basis) and quickly died on dehydration . Mangoes have recalcitrant seeds which do not survive freezing and drying [25]1- Effect of Seed Husk and decortication on Seed Germination. Seedling height (cm), Number of Seedlings and Number of Leaves of Mango (*Mangifera indica* L):

Results of this study showed that the seed husk and decortication had a significant effect on seed germination. Germination of decorticated seeds had highest mean (0.91), while germination of seeds with husk had the mean of (0.64) (Table 1). Seed germination may be defined as the fundamental process by which different plant species grow from a single seed into a plant. This process influences both crop yield and quality (6). Means of seedling height (cm) were (3.46) for decorticated seeds and (0.51) for seeds with husk . Number of seedlings means were (0.87) and (0.06) for decorticated seeds and for seeds with husk, respectively. Degrees of means for number of leaves decorticated seeds is (1.88) and for seeds with husk is (0.26) (Table 1). It can be observed that decor-

ticated seeds always had the highest means when compared to seeds with husk which may be due to the hardness of the husk. This agreed with (9) who recommend to remove and throw the husk away in his steps on how we can plant the seed that hides inside the husk of a mango. Also it was agreed with [22] whom stated that the seed coat removal was superior in all of the parameters. namely. initiation of germination .germination percent .extent of polyembryonic . plant height . stem girth . number of leaves per plant . leaf area . fresh weight .and dry weight . and vigor index compared to seed coat intact.

2 - Effect of Media on Seed Germination. Seedling height (cm). Number of Seedlings and Number of Leaves of Mango (*Mangifera indica* .L):

Results for the effects of media on seed germination. seedling height (cm).number of seedlings and number of leaves of mango (*Mangifera indica* .L) seeds. showed a significant difference in means of seed germination only between wheat hay(0.49) and saw dust (0.94)and no significant difference between means of compost (0.44) and traditional media(1.24) (Table 2).With seedling height (cm) a significant (cm). difference was observed only between means of compost (0.38)and sawdust(2.17) . No significant difference was found between means (2.18) and (3.21) for wheat hay and for traditional media. respectively. With the number of seedlings. a significant difference has been recorded between means of compost (0.08) and wheat hay (0.44). between wheat hay (0.44) and traditional (0.66) media. No significant difference was found between traditional mean (0.66) and sawdust (0.69). With the number of leaves. a significant difference has been found between all medium means (Table 2). It can be revealed that compost is suitable to be used as the pest media for seed germination when compared to the other medium. This agreed with the results of an experiment conducted by (19) in the nursery at the Faculty of Agriculture. University of Khartoum. His objective is to study the effect of different germination media and placement of mango seeds in the media on the germination and the characteristics of seedlings .His results proved significant effect of both Sawdust and Compost media on the rate and percentage of germination compared to that of Silt. Sand and its mixture. In addition to that. the Sawdust and the Compost gave the highest percentages for the number. and length of roots; while the Sand and the Silt gave the highest percentage of root diameter.

3- Effect of interaction between Media and Seed husk on Seed Germination. Seedling height (cm). Number of Seedlings and Number of Leaves of Mango (*Mangifera indica* .L):

Results for the effects of interaction between media and seed husk on seed germination revealed a significant effect of interaction between germination of

seeds with husk in means of sawdust(0.60) and traditional(1.98) media (Table 3) No significant difference was found between means of compost (0.00) and wheat hay (0.00). Interaction between media and seeds without husk has no significant effect on seed germination. With seedling height in seeds with husk, significant interaction was found between sawdust(0.05) and traditional media (1.98), while with seedling height in seeds without husk, significant interaction was only found between compost (0.78) and sawdust(4.29). No significant interactions have been found between means number of seedling of the four medias and means of decorticated seeds, or seeds with husk. The same results have been obtained with the number of leaves in interaction between media and seed husk (Table 3). These results agreed with [22] whom stated that There were no significant differences among the interactions of different treatments and cultivars.

TABLE 1: Effect of Seed Husk and decortication (Without) on Seed Germination, Seedling height (cm), Number of Seedlings and Number of Leaves of Mango (*Mangifera indica* .L) .

Seed Husk	Seed Germination	Seedling height(cm)	Number of Seedlings	Number of Leaves
With	0.64	0.51	0.06	0.26
Without	0.91	3.46	0.87	1.88
LSD	0.11	0.39	0.07	0.19
SE±	0.31	1.06	0.20	0.52

*Each value is a mean of 4 Replicates. Significant at 0.05 levels.

Table 2: Effect of Media on Seed Germination, Seedling height (cm), Number of Seedlings and Number of Leaves of Mango (*Mangifera indica* .L) .

Media	Seed Germination	Seedling height(cm)	Number of Seedlings	Number of Leaves
Compost	0.44	0.38	0.08	0.10
Sawdust	0.94	2.17	0.69	1.43
Wheat hay	0.49	2.18	0.44	0.73
Traditional media (50%sand+ 50% mud)	1.24	3.21	0.66	2.03
LSD	0.32	1.10	0.21	0.54
SE±	0.44	1.50	0.29	0.74

*Each value is a mean of 4 . Replicates. Significant at 0.05 levels.

Table 3: Effect of interaction between Media and Seed husk on Seed Germination. Seedling height (cm). Number of Seedlings and Number of Leaves of Mango (*Mangifera indica* .L).

Media	Seed Husk	Seed Germination	Seedling (height(cm)	Number of Seedlings	Number of Leaves
Compost	With	0.00	0.00	0.00	0.00
	Without		0.78	0.15	0.20
Sawdust	With	0.88		0.08	0.05
	Without	0.60	0.05	1.30	2.80
wheat hay	With	0.00	0.00	0.00	0.00
	Without	0.98	4.36	0.88	1.45
Traditional media	With	0.50	4.44	1.16	3.08
(mud	Without	0.91	0.21	0.59	3.05
	LSD	0.91	0.21	0.59	3.05
LSD	±SE	0.63	2.13	0.40	1.05

*Each value is a mean of 4 Replicates, Significant at 0.05 levels

Conclusion and Recommendations

From the findings of this study, it can be concluded by the following recommendations:

1. Drying of mango (*Mangifera indica* .L) seeds under shadow is better than drying them under direct sun shine.
2. Removal of husk must be done after drying of mango seeds.
3. Mango seeds can germinate with or without husk.
4. Decoticated seeds have the highest means off all parameters of this study.
5. compost is the best media for germination of mango seeds while for seedling height , traditional media has the highest mean. saw dust for number of seedling and traditional media for number of leaves.

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Enhancing EFL Learners' Critical Thinking through Debates and Authentic

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Abstract:

The study aims at improving EFL learners' ability of critical thinking skills through reading authentic texts and to encourage teachers to employ debates and group discussions in EFL classes for developing those skills. The study followed the descriptive analytical method. For the purpose of the study, a test was used for data collection from twenty (20) of EFL Students at the Faculty of Arts and Human Sciences El Kamleen , University of Gezira, Sudan,(2019).The results were analyzed statistically. The results indicate that: many of EFL students need to develop their speaking skills which is important for critical thinking. However, as most of them are weak in oral reading,they are confronted with many difficulties in speaking skills. Moreover, many of the students speak with incorrect pronunciation in the oral interaction as they miss some letters and sounds in their pronunciation. As such, many EFL learners are unable to think critically, because they are some what weak in speaking and writing skills.

Key Words: Employ, critical thinking skill, authentic material, debates.

المستخلص:

تهدف الدراسة إلى تطوير مهارات طلاب اللغة الإنجليزية في التفكير النقدي خلال تدريس المواد التي صممت للمتحدثين باللغة الإنجليزية وتشجيع معلمي اللغة الإنجليزية على استخدام أسلوب المناظرات والنقاش لمجموعات في صفوف تدريس اللغة الإنجليزية لفعالية تلك الأنشطة في تحسين مهارات التفكير النقدي للطلاب. اتبعت الدراسة المنهج التحليلي الوصفي كمنهج كما استخدمت الباحثة نظام الإختبار للطلاب لجمع البيانات من عشرين طالباً وطالبة للغة الإنجليزية بكلية الآداب والعلوم الإنسانية بالكاملين، جامعة الجزيرة، تم تحليل النتيجة بالنظام الاحصائي SPSS حيث توصلت الدراسة الى ان الكثير من الطلاب يعانون من الضعف في مهارات الكلام الشفهي التي بدورها تؤدي لتطوير مهارات التفكير النقدي، وقد اتضح أن الكثير من الطلاب يعانون من صعوبات القراءة الجهرية ومهارات الكلام كما أن كثيرون يجدون صعوبات في نطق الكلمات الإنجليزية حيث ينطقون الكلمات بنقصان بعض الحروف كما يعاني كثيرون صعوبات في مهارات الكتابة من حيث تشكيل الحروف. وهكذا يحتاج الكثير منهم لتحسين مهارات التفكير النقدي نسبة لضعفهم في مهارات الكلام والكتابة.

Introduction

Critical thinking is recognized as an important competence for students to acquire in academic language (Connolly, 2000) Critical thinking is a social practice and is language itself. Maybe even more than L1 teachers, L2 teachers have reasons to introduce their students to aspects of critical thinking

because they need in their lives to think critically, especially in an academic setting (Davidson, 1998). Critical thinking enables EFL learners to conceptualize, apply, analyze and evaluate information (Sezer, 2008).

Emphasizing on making critical thinking as a part of educational courses, scholars have suggested that critical thinking can be taught in different classroom areas, such as those suggested by Shafersman(1991) including lectures, laboratories, writing activities, term papers, exam questions, home work and quantitative exercises.

At each educational level, thinking must be practiced in each content field. This means hard work for the teacher. It's much easier to teach students to memorize facts and then assess them with multiple-choice tests. In a course that emphasizes thinking, objectives must include application and analysis, divergent thinking and opportunities to organize ideas and support value judgments. When more teachers recognize that the facts they teach today will be replaced by the discoveries of tomorrow, the content-versus-process controversy may be resolved (Schmitt, 2002).

Problem of the Study

Many EFL students are not critical thinkers. They are not able to question or evaluate the knowledge. They also lack the ability of creating interaction and communication in the classroom. However, without adequate practice in critical thinking, EFL students may lack a full “scaffold” to academic study, miss the opportunity to advance up the ladder in the global workplace, or may not be able to actively participate in the international community.

1.2 Objectives of the Study:

The study aims to:

1. enables EFL learners to think critically through reading authentic texts.
2. encourage teachers to employ debates and group discussions in EFL classes

1.3 Questions of the Study:

The study will answer the following questions:

1. How can EFL learners be able to think critically?
2. To what extent can practicing debates and group discussions develop learners critical thinking skills?.

1.4 Hypotheses of the Study:

The study hypothesizes the following:

1. Reading authentic materials develops EFL learners' critical thinking skills.
2. Practicing debates and group discussions in EFL classes improves EFL learners' critical thinking skills.

1.5 Significance of the Study

This study stresses on the importance of improving EFL learners' critical

thinking skills. It also advises the teachers to employ methods and materials that enhance learners' critical thinking skills

Literature Review

Teaching authentic texts makes students responsible for building their successively more complex schemata (i.e. level of understanding. Accordingly Cortell, (2005), argues that focusing on point of view in literature promotes critical thinking which is important in traditional education systems unfamiliar with how to read, question, and analyze critically. Acknowledging the filtering due to the point of view of the writer and the effect of experience, cultures, and values of the readers, Cortell, (2005:53) argues that information, rather than being sacred, is man-made. Likewise, the study of literature, once excluded from ESL programs, has academic, intellectual, cultural, and linguistic benefits.

According to Bracken, Brown, and Feng (2009) the importance of teaching critical thinking is nowadays obvious to all educators. CT is essential as a tool of inquiry. As such, CT is a liberating force in education and a powerful resource in one's personal and civic life. While not synonymous with good thinking, CT is a pervasive and self-rectifying human phenomenon.

Carroll (2005) asserts that the ideal critical thinker is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit.

Developing Critical Thinking through Writing Activities

Writing activities are the best way to teach critical thinking. Because writing is an activity which forces students to organize their thoughts, think deeply about their topic and present their conclusions in a persuasive manner. Goatly (2000) states that one reason that we might expect writing to improve critical thinking is the existence of some sort of writing such as persuasive or argumentative writing which have been difficult for the students.

Practicing Speaking Activities

Speaking activities best occur in classrooms in which learners feel comfortable and confident, free to take risks, and have plenty of opportunities to speak, Brown (1994). While there are countless kinds of activities teachers use to develop speaking skills, they most commonly promote conversational speech. This, of course, requires the use of both listening and speaking skills .

Also the communicative activities in EFL classrooms should be based on au-

thetic materials which have been written for the real world use. Such materials are claimed to give students opportunities to develop strategies for understanding language as it is actually used. Furthermore, communicative activities are often carried out by the students in small groups. The nature of Speaking is so much part of daily life that we take it for granted. However, learning speaking, whether in a first or other language, involves developing subtle and detailed knowledge about why, how and when to communicate, and complex skills for producing and managing interaction, such as asking a question or obtaining a turn, Brown (2002). Freely and Steinberg (2000: 41) highlight the important role of debates, group discussions, and individual problem solving activities to enhance critical thinking in the students. They argue that debates improve critical thinking if the ideal opportunity is provided by the instructor for students. As far as it is a process of asking and answering questions and finding information to arrive at a reasoned judgment on a proposition, students have got the chance of coming against a theory. In that case, they not only increase their knowledge but they also try to win a decision. Consequently, they greatly use their ability of critical thinking. Wallace (2003) has claimed setting some sort of activities upon which individual decisions are made can promote critical thinking skills in students. It would be a kind of individual decision making while all the dimensions of a problem are controlled by the person without any further support. So that the person reflects on his own opinion, monitors himself, and makes the final decision on his own.

Characteristics of Oral Production

Oral production is composed of several characteristics that people perceive from language sounds. In other words, when someone uses language sounds, individuals create meaningful and interactive communication, whether individuals are native or non-native speakers, their home region, etc. (Luoma, 2004). According to Ferris's (1995), speaking and listening skills block their enthusiasm and motivation to achieve their academic goals. Preparation for required speaking involvement in the classroom is much longer and complex for the EFL students. Oral participation and the contribution of ideas involve not only information to be disseminated, but diligent practice for presenting the contribution in an easily understood oral manner. This process assures extra hours of preparation and creates great stress for the students as they seek to compile information, practice presenting information and remain a contributing student in EFL classroom.

However, as a norm, English language learners are tested considering their spoken performance, from simple structures to some more complex speeches. Luoma (2004) asserts that oral idea units developed in language performance

have to be elaborated and considered much simpler than writing; therefore, grammar in Speaking is understood in terms of short phrases and clauses connected with coordinating conjunctions and pauses. However, the fact is that, in speech, students perform short stretches of oral language depending on their levels.

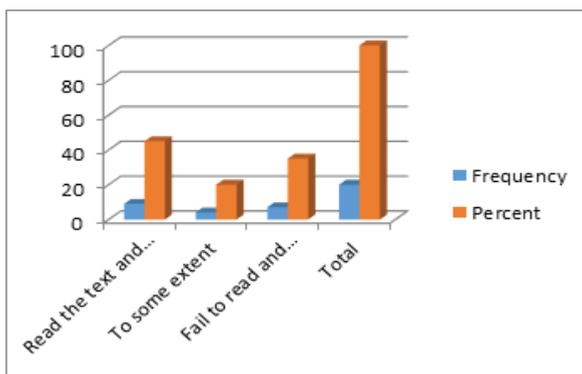
Materials and Methods:

The participants of this study were the EFL students at the Faculty of arts and human sciences in El Kamleen, University of Gezira , Sudan. The research aims at testing EFL students' performance in English language and to check their critical thinking skills through speaking and writing in the English language. The test includes four areas of assessment which are: oral reading where every one of the sample has to read a paragraph from an authentic text orally in front of the class. The test also includes pronunciation, writing the answers of the questions and writing punctuation. Twenty of EFL students at Faculty of arts and human sciences in Elkamleen, University of Gezira were chosen as a sample to take the teste. Every one of them was given a paragraph in a text for reading aloud and then they have to perform writing the answers of the questions in a test paper. They were also given topics for composition writing . The researcher used statistical analysis to find out the variation of the statistical function between the samples. The following are the statistical analysis and the results:

Reading aloud

Table and diagram (1) EFL learners' oral reading

Options	Frequency	Percent
Read the text and answer the questions success fully	9	45.0
To some extent	4	20.0
Fail to read and answer correctly	7	35.0
Total	20	100.0

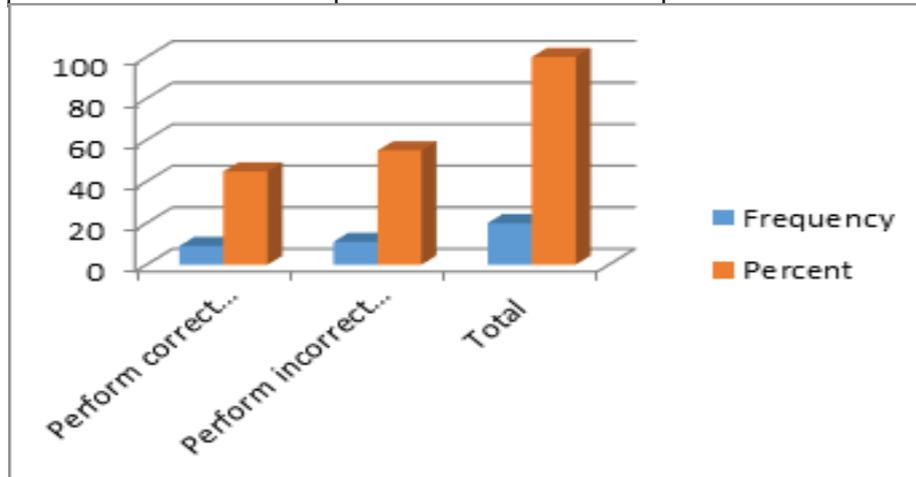


According to the statistical analysis of table (1), only (45%) of the sample were able to read orally with the ups and downs of English sounds and answer the questions. Moreover, (20%) of the sample had some speaking difficulties. However, (35% of the sample found difficulties in speaking skills and so they failed in reading aloud.

Pronunciation:

Table and diagram (2) EFL learner’ s pronunciation

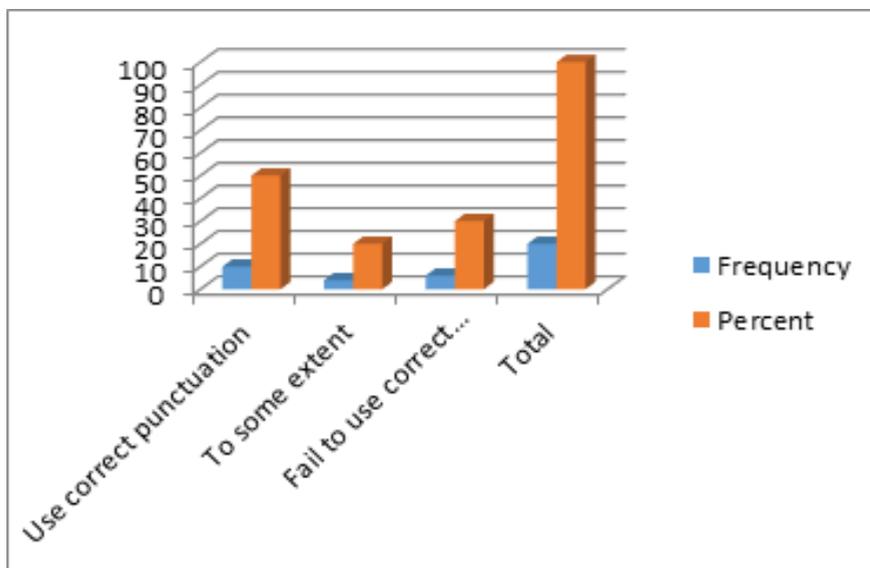
Options	Frequency	Percentage (%)
Perform correct pronunciation	9	45.0
Perform incorrect pronunciation	11	55.0
Total	20	100.0



According to the statistical analysis of table (2), again only (45%) of the sample have succeeded in using correct pronunciation in the oral reading and answering the questions. The analysis shows that, (55 %) of the sample miss some letters and sounds in their pronunciation. They make errors when they speak. Unfortunately most of the sample failed to use correct pronunciation in the oral test.

Punctuation: Table and diagram (3) EFL learners' punctuation

Options	Frequency	Percent
Use correct punctuation	10	50.0
To some extent	4	20.0
Fail to use correct punctuation	6	30.0
Total	20	100.0



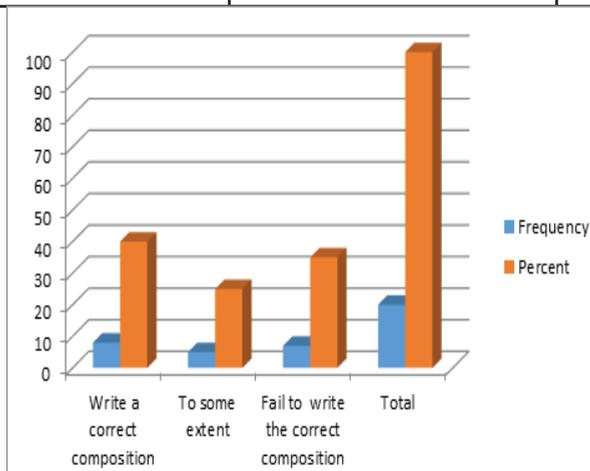
According to the statistical analysis of table (3), only (50%) of the sample use the correct punctuation in their written answers to the questions. The result shows that, (20%) of the sample used punctuation in few sentences in their composition, while (30%) of the sample failed to write the correct punctuation.

Writing Composition

Table and diagram (4) Composition Writing

Options	Frequency	Percent
Write a correct composition	8	40.0
To some extent	5	25.0

Fail to write the correct composition	7	35.0
Total	20	100.0



According to the statistical analysis of table (4), (40%) of the sample have succeeded to write good compositions in the test. However, (25%) of them have many mistakes and (35 %) failed to write correct compositions in the test. Therefore, more than half of EFL students face difficulties in writing skills.

Conclusion and Findings:

Critical thinking has nowadays gained widespread popularity in various disciplines, educators have realized the importance of nurturing students who are critical thinkers and have a critical eye to look at the world surrounding them. Critical thinking is developed through teaching techniques like speaking and reading activities, like authentic materials, debates and group discussions that could help the learners to use evidence skillfully and impartially in their interactions with their classmates during the treatment. Such kind of techniques motivated the learners to organize their thoughts and to articulate them concisely and coherently in their oral productions. The study aims at improving EFL learners' ability of critical thinking skills through reading authentic texts and to encourage teachers to employ debates and group discussions in EFL classes for developing those skills. The study followed the descriptive analytical method. For the purpose of the study, a test was used for data collection from twenty (20) of EFL students at the Faculty Arts and Human Sciences in El Kamleen, University of Gezira. The results were analyzed statistically. The results indicate that: many of EFL students need to develop their speaking skills which is important for critical thinking. However, most of them are weak in oral reading and find difficulties in speaking skills. Moreover, many of the students speak with incorrect pronunciation in the

oral interaction as they miss some letters and sounds in their pronunciation. In addition, they need to develop knowledge of writing punctuation. As such, many EFL learners are unable to think critically, because they are weak in speaking and writing skills.

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Appendixes

Oliver Twist

Q1. Please Read aloud A paragraph from the following text

Dickens's story revolves around young Oliver Twist, an orphan brought up at a "charitable" institution "where twenty or thirty other juvenile offenders against the poor-laws rolled about on the floor all day, without the inconvenience of too much food or too much clothing."

After nine years Oliver graduates to a workhouse for young orphans. There his starving fellow sufferers elect him to ask for more food, in punishment for which Oliver is sold to an undertaker. Eventually Oliver runs away, making his painful way to London.

Penniless and hungry, Oliver is befriended by a young thief, the Artful Dodger, who introduces him to Fagin and his gang, the evil Bill Sikes, and Sikes's lover, Nancy. Steadfastly resisting the criminals' attempts to corrupt him, Oliver eventually escapes, discovers his true parentage, and receives the respect he deserves. Dickens does a creditable job of making Oliver's unshakable goodness believable.

Despite the book's title, however, Oliver has less to do with the story's action than do most protagonists. Other characters act toward him or around him more than he acts on his own; his essentially passive role in the novel makes him less interesting than some of the other, more fully drawn characters.

Q2. Answer the following questions

1. What kinds of social criticism do you find in Oliver Twist? How does Dickens feel about important institutions and ideas of his time? Does he effectively persuade his readers to agree with his point of view?
2. Is Oliver really the central character in the book that bears his name?
3. Is Nancy a morally complex character? What evidence supports your conclusions?
4. To what extent do the characters of Oliver Twist get what they deserve in the end?
5. Which characters in this novel seem most realistic to you? Do you find that certain types of characters seem more believable than others? Why?
6. Dickens is often described as a humorist. What about Oliver Twist makes it funny? You might consider characters, language, and situations.
7. What function does Monks play in the novel? What is his relation to Oliver, and what are his motives?
8. Why does Dickens include the scene in which Oliver visits Fagin in prison? What does this confrontation contribute to the novel?
9. Write two paragraphs about the social criticism you find in Oliver Twist.
10. Write a comparison between Rose Maylie and Nancy. How are they different? Are they alike in any ways? Why is Rose so good, and Nancy apparently so bad?

Effect of Addition Garlic Power as Supplement Diet on Broiler Chicken Cobb 500 Growth Performances

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Abstract

The present study aims to evaluate the effect of addition garlic powder as supplement diet on broiler chicken growth performance, such as body weight gain, feed intake, feed conversion ratio and live body weight. A total of 120 chicks in one day old, which were divided into 4 groups (n = 30) for 42 days. The temperature was controlled during the fattening period and it was 33 °C at the first day and every week was reduced about 2 °C the end temperature was 23 °C. To the experimental groups they were added garlic powder in doses of 2 g / kg (T1), 4 g/kg (T2) and 6 g / kg (T3). The findings were shown no significant difference ($P \geq 0.05$) effect among the groups. After feed supplementation with garlic powder, they were found that the feed conversion ratio (kg/kg) in groups (T3) was highest than other groups (1.7 ± 0.1 kg/kg). Therefore, addition of garlic as a supplemental diet of broiler diet has limited effect on broiler growth performance but it gives as nature product.

Keywords: Garlic, broiler, growth performance, live body weight.

المستخلص

تهدف الدراسة إلى معرفة أثار إضافة مسحوق الثوم في علائق الدجاج اللحم على الأداء الانتاجي للدجاج اللحم. تم استخدام عدد 120 كتكوت غير مجنسة عند عمر يوم واحد من سلالة (كوب 500) ووزعت الكتاكيت عشوائياً إلى اربعة معاملات (ن = 30) بواقع ثلاث مكررات لكل معاملة حسب التصميم العشوائى الكامل (CRD) وذلك لمدة 42 يوم. وكانت المعاملات كما يلي : المعاملة الأولى للسيطره خالية من الإضافات، بينما المعاملة (T1) أضيف مسحوق بذر الثوم بنسبة 0.2%، في المعاملة (T2) أضيف مسحوق بذر الثوم بنسبة 0.4% وفي المعاملة (T3) أضيف مسحوق بذر الثوم بنسبة 0.6% . تم تسجيل الكمية المأكولة من العلف والوزن الحى للدجاج اسبوعياً، كما تم حساب الزيادة الوزنيه للوزن الحى ومعدل التحول الغذائى اسبوعياً.. أظهرت النتائج عدم وجود فروقات معنوية ($P \geq 0.05$) على الأداء الانتاجى ، مقارنة مع مجموعة السيطره (C). ولكن وجد ان معدل التحول الغذائى في المعاملة (T3) اعلى مقارنة بالمجموعات الاخرى (1.7 ± 0.1 kg/kg) وبشكل عام اوضحت نتائج الدراسة أن مسحوق الثوم له أثر محدود على الاداء الانتاجى للدجاج اللحم ولكن يمكن اضافته كمنتج طبيعى.

Introduction:

Garlic has a long history of use as culinary or medicinal supplement. Garlic contains a sulfur volatile active component that has antibacterial, anti-inflammatory and antioxidant biological properties [1]. The growth performances of birds are frequently improved by using growth promoters or feed additives that have a positive impact on the growth and immune responses. Among these substances, antibiotics are no longer used as feed additives, because they are associated with residues in eggs and meat products, and their use has been restricted in many countries [2]. The beneficial effects of natural products are greater than those observed with antibiotics including a lower cost of production and reduced toxicity hazards [3,4]. The positive effect of herbal plants on broilers has been informed by many studies [5]. For long time feed additives have been widely used in expansion animals' performance, and lately it is used in poultry industry to enhance growth, feed efficiency and layers performance [6,7,8] reported that garlic can improve productive performance of broiler chicks. Garlic has been used for 50 years as antibiotic growth promoters and to enhance growth performance in poultry and swine [9,10]. Moreover, garlic is very rich in aromatic oils, which motivate digestion and positively influenced respiratory system being inhaled into air sacs and lungs of birds and stimulating effect on the immune system, also it was found that garlic has strong anti-oxidative effects [11]. The key active component in garlic is a powerful plant chemical called Allicin which swiftly decomposes to several volatile organo sulphur compounds with bioactivities [12]. Bioactive components of garlic like sulfur containing compounds (Alliin, Diallyl-sulfides and Allicin) may be responsible for some specific characteristics of this plant [13]. Garlic is use both as condiment and medicament, anticoagulant, antioxidant, hypolipideamic, antihypertensive, anti-ageing, antiplatelet and heavy metal detoxifier. It has been indicated that these compounds have antibacterial, antifungal, antiparasite, antiviral, antithrombotic, anti-cancerous and vasodilator characteristics [14, 15]. Moreover, garlic has been used as a spice and a native medicine since long ago [16]. Garlic powder as a natural growth promoter can be a potential alternative for common artificial growth promoters like antibiotics and in this respect, it can improve performance and carcass characteristics in broiler chickens [8 ,17]. Garlic is a medicinal herb for prevention and treatment of many diseases [18]. It has an antibiotic when added as a food supplementary in broiler diets, stimulate the immune system, causes quantitative changes of blood leukocytes, enhances digestion, used as growth promoter, increasing body gain, feed intake and feed efficiency [19].

However, suggested that commercial garlic oil, garlic powder and commercially available garlic extract may be hypocholesterolemic [20]. In addition to its antimicrobial activities, garlic has been shown to increase feed palatability and thus improved feed intake [21]. The objectives of this study were to investigate the effects of supplementing garlic (as dried garlic powder) in broiler rations on growth performance.

Materials and Methods:

The study has been conducted at poultry farm of Merowe University of technology – Sudan. A total of 120 unsexed one day old chicks (Coob 500) , which were divided into (4) groups (C, T1, T2 and T3) (n=30). The chickens were breeding in a cage conditions. each cage was equipped with feed dispenser and water intake was ensured ad libitum through a self feed-pump. The temperature was controlled during the fattening period it was 33 °C at the first day and every week was reduced about 2 °C. The lighting during the feeding period was continuous. Each group was fed by same starter complete feed mixture (CFM) from 1st day to 21st day of their age and from the 22nd to 42nd day the birds were fed by Grower complete feed mixture (CFM), (Table 1). The garlic (*Allium sativum*) was purchased from the local market; the garlic was dried by the sun. However, to experimental group were added garlic powder into broiler feed mixture in amount 2 g/Kg (T1), 4 g/ Kg (T2) and 6 g / K (T2) to experimental groups from the end of the first week. During the experimental period the body weight, feed intake and feed conversion ratio were recorded weekly. the end of the experimental the broiler has been slaughtered.

Statistical Analysis:

Data for this experiment were evaluated by using General Liner model using SPSS. Significance were determined by One-Way ANOVA followed by Duncan test ($P \leq 0.05$) was test as the limit of significance.

Table 1: Ingredients and proximate analysis of the experimental basal diets

Item	Starter (from 1st to 21st day)	Grower (22nd to 42nd day)
A: Ingredients%:		
Grain sorghum	64	70.5
Groundnut meal	29.5	22
Hendrix starter concentrate	5	0
Champrix Concentrate	0	5
Lime stone	1.1	1
Dicalsum phosphate	0.1	0.1
Common salt	0.1	0.1
Anti oxidant	0.2	0.2
Oil	0	1.1
Total	100	100
%,B: Determined analysis		
Dry matter	95.5	94.5
Crude protein	23	20.5
Ether extract	3.5	3.1
Crude fiber	3.03	3.65
Ash	6.4	5.2
Nitrogen free-extract	59.55	62.05
% Ca	0.7	0.62
%P	0.34	0.31

Result and Discussion.

Table(2) shows the effect of addition garlic powder as supplement diet on broiler chicken Cobb 500 growth performance such as feed intake, body Gain, feed conversion ratio and live body weight. The results show that no significant($P \geq 0.05$) differences between the treatment groups. Our results agreement with [22] who added garlic extract in level 0.3 and 0.6% on broiler growth performance such as feed intake, body weight gain, and feed conversion ratio, also support [23] who found that the dietary garlic did not affect the body weight gain and FCR. [24] Find that garlic supplementation did not affect the body weight and feed intake in broiler, [25] reported chickens which fed by garlic extract containing diet had the same weight gain with control group. [26] Also reported that there is no significant difference in weight gain of chickens fed with garlic and thyme extract compared to the control group. Also,[2,27] and [28] reported non-significant effect by garlic powder as supplementation on weight gain of broiler chickens., [19] found no significant ($P \geq 0.05$) differences among treatments that received different

levels of garlic. However [17,8] reported improved F.C.R and body weight gain in broiler fed garlic and [29] said the supplementation by garlic powder at 0.3% level had better body weight, feed intake and F.C.R during pre-starter, starter and finisher phase. [30] Found the inclusion of garlic powder in diet of broiler significantly ($P \leq 0.05$) enhanced the body weight and the weight gain as compared to the control groups.

Table 2: growth performance of broiler coob 500

Feed intake (g)					
Treatment	C	T1	T2	T3	P.Level
Second week	426.7±17.6	408±13.9	391±11.5	421±14.7	NS
Third week	558±24.1	570.3±17.4	553.3±35.9	551.7±17.6	NS
Fourth week	±31.1.845	863±26.1	855.7±16.9	848.3±27	NS
Fifth week	931.7±27.5	934±12.8	905.3±13.3	943.3±20.8	NS
Sixth week	973.3±46.2	962.3±13.3	1000.3±25.5	997.3±71.1	NS
Total feed intake	3735±118.7	3721±26.9	3705.7±14	3762±95.1	N.S
Body weight gain (g)					
Second week	188±7	188.3±22	185±7	173±10.7	N.S
Third week	345.7±12.5	335±56	341.7±12.7	330.3±27.6	N.S
Fourth week	522.3±21.4	508.3±59.1	506.7±24.8	517±55.4	N.S
Fifth week	626±17.3	675.7±50.1	660.3±76.7	687.3±20.1	N.S
Sixth week	585.3±42.8	614.7±16.8	570.3±104.5	523.7±58.8	N.S
Total body weight gain	2267.3±60.5	2322±170	2264±118	2231.7±84.7	N.S
Feed conversion ratio (kg/kg)					
Second week	2.3±0.2	2.2±0.3	2.1±0.12	2.4±0.2	N.S
Third week	1.6±0.1	1.7±0.4	1.7±0.1	1.7±0.2	N.S
Fourth week	1.6	1.7±0.2	1.7±0.1	1.7±0.2	N.S
Fifth week	1.5	1.4±0.1	1.4±0.2	1.4±0.1	N.S
Sixth week	1.7±0.1	1.6±0.1	1.8±0.2	1.9±0.3	N.S
Average F.C.R	1.6±0.02	1.6±0.1	1.6±0.8	1.7±0.1	N.S
Live body weight (g)					
Initial weight	125	125	125	125	N.S
Second week	313±7	313±22	±7.310	298±10	N.S
Third week	658±19.5	648±75	651±19	628.7±38	N.S
Fourth week	1181±4.6	1156.7±131.7	1158.3±42.2	1145.7±38.5	N.S
Fifth week	1807±21.8	1832.3±167.3	1818.7±53.5	1833±58.6	N.S
Sixth week	2392.3±60.5	2447±170	2389±117.9	2356.7±84.7	N.S

Conclusion:

From the present study were concluded that the garlic has limited positive effect on broiler growth performance. But garlic as supplement diet has positive effect on broiler performance because he is nature product.

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