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THE EFFECTIVENESS OF EDUCATIONAL - LEARNING DESIGN ACCORDING TO THE PROGRESSIVE INQUIRY MODEL IN MATHEMATICAL EXCELLENCE SKILLS OF SECOND –GRADE INTERMEDIATE STUDENTS

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Abstract

The Aim Of The Research Is To Build An Educational-Learning Design According To The Progressive Inquiry Model And To Know Its Effectiveness In The Mathematical Excellence Skills Of Second-Grade Intermediate Students. To Achieve The Research Objectives, The Two Researchers Followed The Experimental Research Method, And They Adopted A Quasi-Experimental Design With Two Equal Groups With A Pre-Post Test To Measure The Mathematical Excellence Skills. To Achieve The Goal, The Following Null Hypothesis Was Formulated:

There Is No Statistically Significant Difference At The Significance Level (0.05) Between The Mean Scores Of The Experimental Group Students Who Studied The Material According To The Educational-

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Learning Design And The Students Of The Control Group Who Studied The Same Material According To The Usual Method In The Pre-Post Test Of Mathematical Excellence Skills.
The Research Community Was Identified, Which Represents All The Students Of The Second Intermediate Grade In The Governmental Middle And Secondary Day Schools Of The General Directorate Of Education In Baghdad / Rusafa I. The Sample Consisted Of (63) Students From The Second Intermediate Grade Students ,(32) Students For The Experimental Group And (31) For The Control Group From Al-Harith Intermediate School For Boys.
As The Test In Its Final Form Consisted Of (30) Paragraphs Of The Essay And Objective Type, And The Appropriate Statistical Analyzes Were Conducted, And By Adopting The Appropriate Statistical Tools To Analyze The Results, The Results Indicated The Existence Of A Statistically Significant Difference In Favor Of The Students Of The Experimental Group.
Those Who Studied The Prescribed Subject According To The Educational-Learning Design And Among The Students Of The Control Group Who Studied The Subject According To The Usual Method, And That Teaching According To The Educational-Learning Design According To The Progressive Inquiry Model Is Effective In The Skills Of Mathematical Excellence.

Keywords: Effectiveness, Educational Design, Progressive Inquiry Model, Mathematical Excellence

First: The Research Problem

Mathematics Is An Important Field Of Knowledge As It Grows Very Quickly And Cannot Be Pursued Either In Its Concepts Or Life Applications. Thus, The School With Its Curricula Is Facing Great Pressures To Understand It And Communicate It To Students To See The Beauty Of Mathematics And Its Importance And The Need To Employ It In The Face Of Daily Life And Study Problems, And This Depends On The Mathematics Teacher As He Became A Mentor And Guide For His Students To Learn How To Develop In Their Thinking And Excel In Their Performance ,By Preparing Situations And Activities That Allow Them To Discover And Understand Relationships, Solve Problems And Applications Associated With Them, With The Correct Use Of Modern Technological Techniques So That They Can Develop Their Skills That Help To Reach Outstanding Performance, All These Opportunities Teach Them To Rely On Themselves, Given The Importance Of Mathematical Excellence Skills And Their Connection To Solving Daily Problems, Deepening Understanding, And Linking Mathematics With Other Curricula To Provide Opportunities For Developing And Demonstrating Students' Understanding Of Mathematics And Applying Mathematical Concepts And Skills In Solving Problems, And The Absence Of Empirical Studies In Iraq That Dealt With Mathematical Excellence Skills, All Of This Prompted The Two Researchers To Think About Finding The Best Teaching Methods And Approaches To Achieve Mathematical Excellence Among Students Of The General Education Stages

And To Search For Models That Contribute To Organizing The Knowledge, Which Is Addressed By The Educational Situation, So Post-Constructivist Models And Progressive Inquiry Are One Of The New And Innovative Methods That Can Face Changes And Complexities In The Educational Process, And Based On The Foregoing, The Research Problem Can Be Determined By Answering The Following Question: **(What Is The Effectiveness Of Educational-Learning Design According To The Model Of The Progressive Inquiry In The Skills Of Mathematical Excellence Among)**

Second: The Importance Of Research:

The Current Research Acquires Its Importance Through Two Aspects, One Is Theoretical And The Other Is Practical As Followes :

Theoretical Significance:

1. The Progressive Inquiry Model Is A Post-Constructivist Model, And It Is One Of The New Trends That Have Emerged To Provide New And Innovative Learning Methods In The Educational Process. Its Philosophy Is Based On The Fact That Knowledge Is Built In The Student's Mind Through Activating A Set Of Mental Processes, Organized In A Sequential And Interconnected Manner To Achieve Integration Of Knowledge, Understanding, Interpretation And Evaluation.
2. It Is A Response To Modern Trends In Teaching And Learning Mathematics That Seek To Move From Interest In Memorization And Indoctrination To Interest In Mathematical Excellence Skills.
3. It Helps Direct The Attention Of Those In Charge Of Education To The Need To Enrich The Teaching Of Mathematics With Modern Models.

Practical Importance:

1. Providing An Educational Design According To The Progressive Inquiry Model In Mathematics For The Second Intermediate Grade, And This Research Is The First To The Knowledge Of The Two Researchers.
2. Providing The Mathematical Educational Field With Models For The Teaching Plans That Have Been Prepared According To The Model And From Which Teachers Can Benefit.
3. Providing A Test Of Mathematical Excellence Skills That Has Psychometric Characteristics For Students Of The Second Intermediate School.

Third: The Purpose Of The Research

The Current Research Aims To:

1. Building The Educational-Learning Design According To The Progressive Inquiry Model.
2. Recognizing The Effectiveness Of Educational-Learning Design According To The Progressive Inquiry Model In The Sports Excellence Skills Of Second-Intermediate Students.

Fourth: The Research Hypothesis

To Achieve The Research Objective, The Following Null Hypothesis Was Developed:

(There Is No Statistically Significant Difference At The Significance Level (0.05) Between The Mean Scores Of The Experimental Group Students Who Studied The Material According To The Educational-Learning Design And The Control Group Students Who Studied The Same Material According To The Usual Method In The Mathematical Excellence Skills Test).

Fifth: Research Limits

The Current Search Was Limited To The Following:

1. Students Of The Second Intermediate Grade In Baghdad Governorate (Daytime) Schools Affiliated To The General Directorate Of Education In Baghdad, Rusafa First.
2. Mathematics Book For The Second Intermediate Grade, Part One (Relative Numbers, Real Numbers, Limits, Equations And Inequalities) Scheduled By The Ministry Of Education, 3rd Edition, 2019.
3. The First Semester Of The Academic Year 2021/2022.
3. Mathematical Excellence Skills (Understanding, Mathematical Sense, Mathematical Reasoning, Mathematical Communication, Mathematical Coherence, Life Skills, Algebraic Thinking).

Sixth: Term Definition

First, The Efficacy:

- Defined By (Sayyid, 2017) As: "The Statistically Significant Percentage Of The Change Caused By The Independent Variable In The Level Of The Dependent Variable Through Repeated Measurements, Before And After" (Sayed, 2017: 153).

The Two Researchers Defined It Procedurally As The Positive Change Caused By The Educational-Learning Design Prepared According To The Progressive Inquiry Model And The Mathematical Excellence Skills Of Second-Intermediate Students Through The Pre- And Post-Test.

Second: Educational Design: It Was Defined By - (Al-Zind, 2018): “The Totality Of Activities And Procedures That Ensure Planning The Educational Situation Within Specific Goals Linked To A Time-Limit And Calculated And Measurable Steps That Are Drawn And Implemented Individually Or Collectively With A Small Educational Situation, Or A Comprehensive Long-Term That Achieves Specific Calculated Results Or Results Of Broad Objective Dimensions.” (Al-Zind, 2018: (39).

The Two Researchers Defined It Procedurally As A Planned And Organized Process That Works To Organize The Teaching And Learning Of Mathematics Content For The Second Intermediate Grade According To The Progressive Inquiry Model Through Interrelated Stages Starting With The Analysis Stage And Ending With Evaluation With Continuous Feedback That Provides The Researcher With Information About The Progress And Success Of This Process.

Third: Progressive Inquiry Model:

(Mahdi, 2019) Defined It As: An Educational-Learning Framework To Help Learners Solve Mathematical Problems Cooperatively Within Clear Steps, Including: Creating Context, Asking And Preparing

Questions, Building Work Theories, Critical Evaluation, Deep Knowledge Search, Generation Of Sub-Questions, Developing New Theories , Distributed Experience (Mahdi, 2019: 8).

The Two Researchers Define It Procedurally As: An Educational-Learning Framework To Help Second-Grade Students, The Sample Of The Research, To Solve Problems Cooperatively In The Light Of Clear Steps For Designing The Content Of The Study Material Represented By Chapters (Relative Numbers, Real Numbers, Limits, Equations And Inequalities) And Including Educational Activities That Focus On Mathematics Excellence Skills And Acquiring Mathematical Knowledge For The Experimental Group Students.

Fourth: Mathematical Excellence:

Defined By Math Excellence Group (2011): As The Ability Of Learners To Use Mathematical Concepts And Skills Appropriate To The Requirements Of The Twenty-First Century, And To Be Confident In Their Understanding And Qualified In Their Application In Real Situations That Lead To The Emergence Of Mathematics Applications In Other Fields, And The Use Of Appropriate Mathematical Language And Technological Treatments, And Their Ability To Recognize Mathematical Patterns And Relationships And Work With Them, And To Carry Out Mathematical Inferences To Solve Problems, And To Have A Sense Of Mathematics, And To Have Positive Attitudes To Learn And Passion To Study And Have The Curiosity To Search And Investigate New Information So As To Enable Them To Learn For Life. (Math Excellence Group,2011:3)

The Two Researchers Defined It Procedurally As The Ability Of The Second Intermediate Grade Students In The Research Sample To Use The Mathematical Excellence Skills (Understanding, Mathematical Sense, Communication, Mathematical Interdependence, Life Skills, Inference And Algebraic Thinking) In Solving Mathematical Problems And Providing Appropriate Explanations And Justifications For Them. This Is Measured By The Degree That Students Obtain In The Excellence Skills Test Prepared By The Researcher.

Theoretical Background And Previous Studies

First, Educational Design

Educational Design Is A Link Between Educational Theory And Educational Application. By Following The Systems Approach, The Specifications Of Teaching Behavior Are Determined To Achieve The Desired Results, As The Design Of The Teaching Process Is In The Form Of A System Consisting Of Inputs That Interact To Achieve Specific Goals It Is A Science Related To The Method Of Planning, Analyzing, Organizing And Developing The Elements Of The Educational Process In Terms Of Forms And Plans Before Implementing Them, Whether They Are Descriptive Or Procedural (Zayer And Khudair, 21: 2020).

Educational Design Is Rooted In:

1- Studies And Research Conducted In The Field Of Education And Psychology Related To The Psychology Of Individual Differences And The Process Of Self-Learning And Programmed Education.

2- Studies Related To Learning Theories And Behavioral Sciences That Examined The Importance Of Controlling Stimuli And Responses In The Educational Situation.

3- Engineering Technology That Helped The Learner To Progress In The Learning Process At His Own Pace, And Which Examined The Importance Of Self-Learning When Using The Machine.

4- Studies That Examined The Importance Of Audio-Visual Aids In The Learning Process And The Learner's Use Of More Than One Sense At A Time. (Alhela, 1999: 28-27).

Second: Progressive Inquiry Model

The Model Represents An Educational Framework To Facilitate The Learning Process For Learners Not Only To Find Answers To Pre-Existing Questions But To Create New Questions, Generate Explanations, And Seek Knowledge For Themselves And Their Teachers That May Be New (Muukkonen & Other, 2004:38).

The Progressive Inquiry Model Is Concerned With Studying The Cognitive Content That Is Presented To Learners In A Careful Study That Goes Beyond Memorizing And Understanding It Directly, To The Extent That They Acquire Various Thinking Skills To Solve Problems And Build Knowledge.

It Works On Analyzing The Content, Interpreting It, Working The Mind In It And All The Information It Contains, Expressing An Opinion On It And Evaluating It, Which Leads To Encouraging Learners To Cooperate With Each Other, Actively Participate In Activities, Share Knowledge And Self-Criticism Of Learning Practices (Kozma, R., 2003:7).

This Model Was Proposed In 2003 By Kai Hakkarainen And His Research Team At Helsinki University, The Largest University In Finland. This Model Assists Teachers And Learners In Organizing Knowledge And Its Activities In Order To Acquire And Master It. This Model Is Based Mainly On Building Knowledge, The Interrogative Model Of Scientific Inquiry And The Idea Of Distributing Experience, And This Model Has Been Tested In Various Educational Environments In Finland. Kai Hakrenen And His Research Team Analyzed The Previous Requirements, So He Developed The Model As An Educational And Cognitive Framework To Support Teachers And Learners In Organizing And Facilitating Knowledge-Building Activities (Muukkonen & Other, 2004:38).

Post-Structural Models Are Based In Their Philosophy And The Inquiry Model One Of Them Is That Knowledge Is Built In The Mind Of The Learner By Activating A Set Of Mental Processes That Are Organized In A Sequential And Interconnected Manner To Achieve Integration In Knowledge In Terms Of Understanding, Interpretation And Evaluation. It Is One Of The New Trends That Have Emerged To Offer New And Innovative Learning Methods In The Educational Process, And One Of Its Principles On Which It Is Based Is That The Information Is Available In All Sources, And It Is Simple And Ordinary

Materials And Can Only Be Benefited From After Processing, Classifying, Linking Them Together, Checking And Categorizing Them In The Learner's Memory And Memorizing The Learner So That It Allows From Consumer To Producer And Employee Of Information (Deleuze, 2004: 170).

Phases Of The Progressive Inquiry Model

1) Create Context:

In The Beginning, The Teacher Participates With The Learners By Creating A Context To Understand The Problem Under Study, And Works To Link It To The Main Concepts Related To Science Or Life Applications. The Learning Group Is Formed, Then Joint Planning And Setting Common Goals, Taking Into Account The Creation Of A Social Culture That Supports The Exchange And Cooperative Sharing Of Knowledge And Ideas That Are Reached. And Work To Develop It.

2)Asking And Preparing Questions

One Of The Principles Of The Inquiry Process Is Directing The Teacher To A Set Of Questions About The Information And Knowledge Provided To The Learners, And Training Them To Ask Questions Of The Type (Why? How? What) And Inquiries That Achieve The Learner's Understanding Of Ideas And Meanings, And Provoke A Desire To Search And Explore For Their Answers.

3) Building Work Theories

There Is An Important And Necessary Condition For Learners To Understand The Problem Or Topic, Which Is To Formulate The Learners Themselves The Problem Hypotheses Or Develop Explanations For It. At The Beginning Of The Investigation Process, It Is Important For Learners To Try To Explain The Problem Or Topic From Their Basic Background Knowledge. It Has A Number Of Objectives, Which Is To Highlight The Previous Concepts Of The Issues And Problems Raised. The Attempt To Explain The Learner Those Interpretations To His Peers Is One Of The Effective Ways To Test The Learner's Own Understanding Of The Research Problem, And It Works In Creating A Common Understanding Among The Learners Of The Problem Raised.

4) Critical Evaluation

Its Aim Is To Identify The Strengths And Weaknesses In All The Assumptions And Interpretations Developed By The Group Of Learners In Order To Organize The Joint Efforts Made To Build And Direct Knowledge, And This Stage Or Phase Also Includes An Evaluation Of The Inquiry Process Itself And Not Only An Evaluation Of The Final Result In Other Words, The Focus Is Not On The Assumptions And Interpretations Only, But We Evaluate The Method Followed By The Group Of Learners To Reach At These Different Assumptions And Interpretations.

5)He Deep And Broad Search For Knowledge:

The Progressive Inquiry Model Is Concerned With Learners Using A Variety Of Learning Sources That May Be Printed Or Electronic To Enable Them To Search In Depth And Broad For Knowledge To

Answer Their Questions. The Search For Information And Knowledge And Identifying It From Different Sources Provides An Opportunity For Investigation, Conclusion And Treatment In A Broad Way, And Then The Teacher Must Specify For The Learners The Information And Knowledge That He Wants To Deepen In His Study, And Those That They Must Expand And Search For In The Various Sources Of Knowledge.

6) Generate Sub-Questions

The Inquiry Process Focuses On Training Learners To Transform The Main Questions Posed By The Teacher To More Specific Sub-Questions, Based On Their Assessment Of The New Knowledge They Have Reached. The Formulation Of Sub-Questions Helps Focus On The Investigation Process, And Reorient The Learners Towards The Previously Identified Problem In Order To Generate More Sub-Questions To Help Learners Deepen Their Understanding Of The Problem, Making The Questions More Clear To Them.

7) Develop New Theories

The Knowledge That The Learners Access Helps The Emergence Of New Interpretations. This Process Includes Publishing Summaries And Conclusions Of The Learners Group On The Internet, Taking Into Account The Organization Of The Results Reached In An Electronic Database, And All Learners Should Be Able To Access Those Data Easily, Which Makes The Development Of Concepts And Information Visible To All.

8) Distributed Experience

It Means The Diversity Of Experiences Among The Learners And The Interaction Among Them In The Development And Construction Of Knowledge. The Responsibilities Of The Learners Group Include Sharing The Cognitive Responsibility For The Success Of The Inquiry, Then The Learners Gather For Discussion And Dialogue, And In The End The Teacher Evaluates The Work They Have Reached.

(Muukkonen, & Other, 2005:531-534)

The Two Researchers Believe That The Importance Of The Progressive Inquiry Model Is To Prepare Learners For The Knowledge Society And Provide Them With Skills To Solve Problems And Build Knowledge By Working In Cooperative Groups And Guiding Them To Participate In Each Other's Participation When Assigned To Duties And Activities, Which Leads To Their Sharing Of Knowledge And Their Acquisition Of Self-Learning Skills Through Research, Investigation, And Information Gathering. Group Learning Achieves Understanding And Enrichment Of Information For Learners Through Dialogue And Discussion, So The Educational Design Was Built According To This Model.

Third: Mathematical Excellence

The Fourth Document On Curriculum-Building For Excellence Issued By The Scottish Government 2009 Indicates That Excellence Means That The Learner Possesses The Basic Skills For Success In The

Learning Process, In Life And At Work, And That He Has An Effective And Sound Life Model By Focusing On Account, Public Health, Well-Being, Scientific Enlightenment And Sound Structure. Scottish Government, 2009:17).

Mathematics Is A Fertile Environment Through Which Learners Can Develop Their Mathematical Excellence, Because It Depends On Imagination, Mental Images And Logic In Addition To The Nature That It Enjoys, Which Is Experimental, Synthetic, Inferential And Practical, As It Can Bring Pleasure To Its Students (Al-Sayed, 2019: 2).

And (NCTM, 2015) Mentioned By (Mohammed, 2020) That Mathematical Excellence Has Become An Imperative At The Present Time Because It Is One Of The Requirements Of Life In The Twenty-First Century, Because It Enables Learners To Succeed In Career Work In Order To Enable Them To Solve Life Problems And Perform Arithmetic Operations Efficiently (Muhammad,230:2020), And Mathematical Excellence Includes The Following Elements:

• The Use Of Motivation, Participation, And Imagination In Mathematics Through Learning, Life, And Work.

• Include Effective Mathematics Teaching And Learning Experiences.

• Full And Clear Understanding Of Mathematical Knowledge And Use Of Mathematical Concepts And Skills In The Real World, Including Basic Arithmetic Skills, And Appropriate Use Of Techniques.

Effective Evaluation As A Bridge Between Teaching And Learning. A Distinguished Teacher Makes Sure Of The Experiences His Students Have Attained Before Moving On To Teach Them Other New Experiences. (Maths Excellence Group,2011:3)

Fourth: Mathematical Excellence Skills

Views Differed On Determining The Skills Of Mathematical Excellence, As The Ministry Of Education In Ontario, Canada Indicated That The Mathematical Excellence Skills Of Learners Are Represented In Understanding Sports Concepts, Critical Thinking Skills, Creative Thinking, Creative Problem-Solving Skills, Mathematical Communication Skills, Effective Cooperation, And Conscious Decision-Making Skills. (Ministry Of Education Ontario,2014:5)

Curricula For Excellence Focused On A Number Of Mathematical Excellence Skills And Their Development Among Learners, Including Early Algebraic Thinking Skills, Which Deepens Their Understanding Of Mathematics, Increases Confidence In Its Use, And Encourages Learners To Think Logically, Creatively, And Critically,Correcting Errors For Mathematical Concepts, Using Mathematical Modeling And Educational Scaffolding To Develop Mathematical Thinking, And Mathematical Problem-Solving Skills As A Focus For Teaching Mathematics, In Addition To Using Mental Arithmetic And Linking Mathematics With Other Fields, And Studying The Impact Of Mathematics On The Development Of The World From The Past, Present And Future (Government, Scot, 2009. :37-38)

The Report Issued By The Excellence In Mathematics Group (MEG, 2011) Also Identified A Number Of Mathematical Excellence Skills That The Learner Must Possess In Order To Achieve Excellence In Mathematics:

1- Understanding: It Is The Set Of Mental Processes That The Learner Employs To Understand Mathematics, As He Interprets, Applies And Corrects Mistakes.

2- Mathematical Sense: It Allows The Learner To Manipulate Numbers, Understand The Connections Between Operations, Be Able To Measure, Graphs, And Probabilities, And Use Them To Solve Mathematical Problems.

3- Mathematical Communication: The Learner Has The Ability To Use The Appropriate Mathematical Language And Deal With It.

4-Mathematical Coherence: It Integrates The Branches Of Mathematics And Between Mathematics And Other Sciences.

5- Life Skills: The Ability To Solve A Wide Range Of Mathematical Problems That Include Life Context Or From Other School Curricula.

6- Mathematical Reasoning: The Learner Is Able To Reach Logical Conclusions And Be Able To Justify Them Logically.

7- Algebraic Thinking: The Learner's Ability To Use Symbols, Algebraic Relations, Activities, And Use Mathematical Patterns And Generalizations And Work With Them.

(Math Excellencegroup,2011:11-14)

The Two Researchers Believe That The Learner’s Possession Of The Skills Of Mathematical Excellence Makes Him Think In A Way That Enables Him To Evaluate His Ideas And Make The Right Decision. Therefore, The Mathematical Content Of Many Problems That Are Related To The Context In Which He Lives Should Be Included, So That The Role Of Mathematical Concepts And Skills Appears In Solving Them, It Makes The Learner Have The Ability To Process And Organize His Information Through His Interaction With His Peers And Exchange Knowledge About Mathematics, Which Leads To Enhancing Their Confidence And Realizing The Role That Mathematics Plays In Their Daily Lives In Light Of Scientific And Technological Progress.

Literature Of Review

After Reviewing A Number Of Literature On The Subject And References, As Well As Searching On The Internet, Previous Studies Were Obtained That Dealt With The Progressive Inquiry Model And The Skills Of Mathematical Excellence.

Table (1) *Studies Dealing With The Progressive Inquiry Model And Mathematical Excellence*

Study Location	Sample Size	Study Objective	Results
Mahdi, (2019 .) Egypt	56 Male And Female Students	Knowing The Effectiveness Of A Proposed Unit In Modern, Renewable Mathematics "Fuzzy Logic" By Using Post-Constructivist Models In Developing Achievement And Attitude Towards Mathematics Among Primary School Students.	There Is A Statistically Significant Difference Between The Scores Of The Students Of The Experimental Group That Studies The Proposed Unit In The Pre And Post Applications Of The Achievement Test And The Trend In Favor Of The Post Application.
(Hassan, 2021) Egypt	40 Male Students	Knowing The Effectiveness Of The Progressive Inquiry Model And Developing The Creative Solution To The Problems Of Mathematics And High-Ranking Thinking Among Secondary School Students.	There Is A Statistically Significant Difference Between The Mean Scores Of Students In The Post Application Of The Two Research Groups To Test The Creative Solution To Mathematics Problems And The High-Ranking Thinking Test In Favor Of The Experimental Group.
Alsyad., (2019) Sultanate Of Oman	71 Female Students	Recognizing The Effectiveness Of A Program Of Activities Based On Active Learning To Develop The Skills Of Excellence And Creativity In Mathematics Among Students Of Basic Education In The Sultanate Of Oman.	There Are Statistically Significant Differences Between The Scores Of The Students Of The Experimental And Control Groups In The Results Of The Post Application Of The Excellence And Creativity Test In Mathematics In Favor Of The Experimental Group..
(El-Deeb,2020) Palestine	94 Female Students	Recognizing The Effectiveness Of The Constructivist Learning Model In Developing Systemic Thinking Skills And Mathematical Excellence Among Seventh Grade Students In Gaza Governorate.	There Is A Statistically Significant Difference In Favor Of The Experimental Group Students, And The Effectiveness Of The Model In Developing Systemic Thinking And Mathematical Excellence, And A Strong Correlation Between Systemic Thinking And Mathematical Excellence, Emerged.

Research Procedures

Research Methodology

Based On The Nature Of The Research And The Objectives It Seeks To Achieve, The Two Researchers Used The Experimental Method To Achieve The Objectives Of The Research, And The Researchers Chose A Quasi-Experimental Design For Two Experimental And Control Groups With A Pre- And Post-Test.

Research Community And Sample

1- Research Community

The Research Community Includes All Second-Grade Students In The Middle School In The Governmental Middle And Secondary Day Schools Of The General Directorate Of Education In Baghdad / Rusafa I For The Academic Year (2021-2022), As The Total Number Of The Research Community Reached (14799) Students.

2- Research Sample

The Two Researchers Chose Al-Harith Intermediate School For Boys Intentionally To Be The Place Of Application Of The Experiment, As The Current Research Sample Reached (63) Students, (32) For The Experimental Group And (31) For The Control Group.

Adjustment Procedures:

1- The Internal Safety Of The Experimental Design: The Researcher Was Keen To Statistically Equalize The Two Groups Of Research In Some Variables That May Affect The Dependent Variable, Namely (Test Of Previous Requirements, Chronological Age Of Students Calculated In Months, Previous Achievement, Intelligence Test, Test Of Mathematical Excellence Skills).

2- The External Safety Of The Experimental Design: To Maintain The Integrity Of The Application Of The Experiment, And In Order To Reach Reliable Results, There Are Some Non-Experimental Factors That May Affect The Safety Of The Results Of The Experiment, So The Researcher Must Identify And Control Them, And These Factors Include: (Experiment Duration, Study Material , Physical And Environmental Conditions, Experimental Extinction).

Research Requirement : Include

1- Building Educational-Learning Design

To Achieve The Research Objectives Of Building The Educational-Learning Design According To The Model Of The Progressive Inquiry In Mathematics For The Second Intermediate Grade, The Two Researchers Followed The Construction Of The Educational-Learning Design, Which Is Theoretically Based On The Following Steps As Well As The Stage Of Feedback With Each Stage, Which Is As

Follows: (Analysis Stage , Preparation Stage (Design And Development), Implementation Stage, Evaluation Stage.

Research Tools:

One Of The Research Requirements Is To Prepare A Test That Fits The Research Sample, And Serves The Research Objectives And Hypothesis.

1- Determining The Objective Of The Test: The Test Aims To Measure The Skills Of The Second Intermediate Grade Students, The Research Sample In The Skills Of Mathematical Excellence.

2- Determining The Skills Of Mathematical Excellence: After Reviewing International Sources Such As Documents For Building Curricula For Excellence In A Number Of Countries, Reports And Documents For Building The Curriculum For Excellence Issued By The Scottish Ministry Of Education (2004-2014), In Order To Adopt The Mathematical Excellence Skills That Were Identified By The Excellence Group In Mathematics In Scotland Maths Excellence Group,2011)) In Constructing The Mathematical Excellence Skills Test.

Presenting The Skills To The Arbitrators: After The Mathematical Excellence Skills Were Determined, A Questionnaire Was Prepared And Presented To A Number Of Arbitrators, To Know Their Opinions About Their Suitability To The Research Sample And To Add Any Skill According To Their Experience And To Verify The Indicators Of These Skills.

4- Drafting The Test Items: For The Purpose Of Formulating The Paragraphs, Some Previous Studies Related To This Topic Were Reviewed And Based On The Theoretical Aspect Of This Research, The Two Researchers Prepared (32) Paragraphs Of The Two Objective Types (22) Paragraphs, And The Article Type (10) Paragraphs.

5- Prepare Test Instructions

A. Answer Instructions: The Instructions For Answering The Test Items Were Formulated, So The Two Researchers Prepared Instructions Explaining The Required Performance, Showing The Method And Place Of The Answer, And Distributing Scores On Its Paragraphs. It Also Included Some Information That Pertains To The Student And To Give An Idea Of The Purpose Of The Test, And It Was Emphasized That No Paragraph Was Left Unanswered.

B. Correction Instructions: An Exemplary Answer Was Developed For The Test Items That Were Approved In The Correction, As One Point Was Given For The Correct Answer And Zero For The Wrong Answer For The Substantive Items. As For The Essay Items, Their Range Ranged Between (0-2) And (0-3) Degrees, After Their Presentation. On A Group Of Specialists In The Field Of Mathematics And Its Teaching Methods.

6- Presentation Of The Test Items To The Arbitrators: The Test Items Were Presented To A Number Of Arbitrators In The Field Of Mathematics And Its Teaching Methods, To See Their Suitability To The Research Sample And To Verify The Correctness Of Its Wording And To Make What They Deem Appropriate Of Modifications And Based On Their Opinions, The Difference Between Those Who Did Not Agree To The Paragraph Was Calculated The Percentage Was Used As A Criterion To Measure The Validity Of The Test Items; It Obtained The Approval Of More Than 80% Of The Arbitrators' Opinions, And Thus The Apparent Sincerity Indicators Were Obtained, And Thus The Test Was Ready In Its Initial Form.

7- Applying The Test To The Exploratory Sample: The Test Was Applied To An Exploratory Sample In Order To Verify The Psychometric Properties Of This Test, As The Sample Consisted Of (100) Students, And The Two Researchers Applied The Test And After Completing The Answer It Was Found That The Paragraphs Are Clear And There Was No Problem, And That The Average Time The Time Taken To Answer The Mathematical Excellence Skills Test Is (75) Minutes.

8- Statistical Analysis Of The Test Items: After The Test Items Were Corrected, And Statistical Analyzes Were Performed On The Two Groups (The Coefficient Of Difficulty, Distinction And Effectiveness Of Wrong Alternatives), It Was Found That The Coefficients We Can Say Are Acceptable Because They Ranged Between (0.20-0.80), Except For Two Items (14) And (32) Had A Coefficient Of Difficulty (0.14) And (0.17), And Thus These Two Items Were Dropped From The Test.

9- Validity Of The Test: The Validity Of The Mathematical Excellence Skills Test Was Verified By Using Two Types Of Honesty: Apparent Honesty And Construct Validity.

10- The Stability Of The Test: The Two Researchers Used The Alpha-Cronbach Equation To Calculate The Reliability Of The Mathematical Excellence Skills Test, Which Was Applied To The Sample Of Statistical Analysis, Due To Its Validity For The Objective And Article Paragraphs That Make Up This Test. It Was Found That It Is Equal To (0.84) And Is Considered A Good Value.

With All These Procedures, The Mathematical Excellence Skills Test Is Now Ready In Its Final Form, With A New Sequence, Prepared For The Final Application Of (30) Items.

Application Of The Research Tool:

After Completing The Teaching Of The Prescribed Material For The Students Of The Two Groups, A Post-Test For The Skills Of Mathematical Excellence Was Applied On Wednesday, 1/2021).

Statistical Means: The Following Statistical Methods Were Used (T-Test For Two Independent Samples, Kewder-Richardson Equation 20), Alpha-Cronbach Equation, Equations Of Difficulty Coefficient, Item Discrimination And The Effectiveness Of Wrong Alternatives.

Presentation And Interpretation Of Results

To Know The Results That Were Reached In The Light Of The Statistical Treatment According To The Research Objectives And Hypotheses, And To Present The Conclusions And Recommendations, And The Proposals That This Research Reached.

First: Presentation And Interpretation Of The Results

The Results Are Presented According To The Research Objectives And Hypotheses, As Follows:

The First Objective: Building The Educational-Learning Design According To The Model Of The Progressive Inquiry For Second-Grade Students In The Middle School In Mathematics.

This Goal Has Been Achieved By A Number Of Steps Represented In The Stages Of Design Construction That Were Mentioned Previously In The Research Methodology And Its Procedures, According To The Procedures Followed In Building An Educational-Learning Design.

The Second Objective: To Identify The Effectiveness Of The Educational-Learning Design According To The Progressive Inquiry Model In Testing The Skills Of Mathematical Excellence.

For The Purpose Of Verifying The Null Hypothesis, Which States That:

There Is No Statistically Significant Difference At The Significance Level (0.05) Between The Mean Scores Of The Experimental Group Students Who Studied The Material According To The Educational-Learning Design And The Control Group Students Who Studied The Same Material In The Usual Way In The Mathematical Excellence Skills Test.

After The Two Researchers Applied To Test The Skills Of Mathematical Excellence And Correction Of The Students' Answers, And Extracted The Statistical Description Of The Data Of The Two Groups Using The Statistical Program ((Spss), As The Arithmetic Mean Of The Scores Of The Experimental Group Students Was Equal To (29.8750), With A Standard Deviation Of (6.95028), While The Average Score Of The Control Group Was (22.2903) With A Standard Deviation Of (8.17392), And By Using Levin's Test To Find Out The Statistical Difference Between The Variance Of The Two Groups' Scores, The F-Value Of Levin's Test Reached (0.481) At The Significance Level (0.491), Which Is Greater Than The Approved Significance Level (0.05).), And This Means That There Is Homogeneity Between The Two Groups In Mathematical Excellence.

In Order To Find Out The Significance Of The Statistical Difference Between The Two Research Groups, The Two Researchers Adopted The T-Test For Two Unequal Independent Samples, As The Calculated Value Of (T) Equaled (3.972) At The Significance Level (0.000) And With A Degree Of Freedom (61), It Is Smaller Than The Significance Level (0.05), And This Indicates The Existence Of A Statistically Significant Difference Between The Mean Scores Of The Experimental Group Students Who Studied By Adopting The Educational-Learning Design According To The Progressive Inquiry Model And The

Students Of The Control Group Who Studied In The Usual Way In The Mathematical Excellence Skills Test, And In Favor Of The Experimental Group. , And Table (2) Shows That:

Table (2) *Statistical Description Of The Experimental And Control Groups In The Mathematical Excellence Skills Test*

Two Groups	No	Levin's Test		Mean	Standard Deviation	Degree Of Free dom	T Test		Statistical Significance At (0.05)
		Value F	Significance Level				Value T	Significance Level	
Experimental	32	0.481	0.491	29.8750	6.95028	61	3.972	0.000	Significant
Control	31			22.2903	8.17392				

As A Result, The Null Hypothesis Is Rejected And The Alternative Hypothesis Is Accepted, Meaning That There Is A Statistically Significant Difference At The Significance Level (0.05) Between The Mean Scores Of The Students Of The Experimental Group Who Studied The Material According To The Educational-Learning Design And The Students Of The Control Group Who Studied The Same Material In The Usual Way In The Test Of Mathematical Excellence Skills For The Benefit Of The Experimental Group.

In Order To Verify The Effectiveness Of The Educational-Learning Design In The Mathematical Excellence Skills Of The Experimental Group, The Haredy Simple Gain Ratio Equation Was Calculated This Equation Is Suitable For Measuring The Effectiveness Of Experimental Treatments In Experimental Educational Research That Depends On Tests And Measures That Measure Knowledge, Mental Skills And Trends, And The Range For This Percentage Extends From (0) To (1), (Sayed, 2017: 161).

And After Calculating The Percentage Of Gain Between The Pre- And Post-Test Of The Mathematical Excellence Skills For The Students Of The Experimental Group, It Reached (0.5), Which Is An Acceptable Effectiveness As Shown In Table (3).

Table (3) *Hardy's Simple Gain Percentage For The Mathematical Excellence Skills Of The Experimental Group*

Pre-Test	Post-Test	Final Degree	) Hardy's Simple Gain
9.4063	29.875	42	0.5

The Two Researchers Attribute The Existence Of A Statistically Significant Difference Between The Two Groups In Favor Of The Experimental Ones Who Studied According To The Educational-Learning Design By Testing The Mathematical Excellence Skills To The Following Reasons:

1. Educational-Learning Design Contributed To Increasing Their Mathematical Excellence, And The Two Researchers Attribute This To The Design's Contribution To Revealing Students' Prior Knowledge And Employing It In A Meaningful Way By Linking Previous Learning With Subsequent Learning, Deducing Information, Increasing Discussion And Participation, And Finding Appropriate Solutions To Mathematical Problems.
2. The Educational-Learning Design According To The Progressive Inquiry Model Helped The Learner To Organize Information In A New Way By Going Through A Situation, So The Learner Works To Organize His Stored Information And Knowledge And Find The Appropriate Way To Address This Situation, Which Contributed To Their Mathematical Excellence.
3. Inclusion Of Educational-Learning Design Life Problems And Clarified The Role Of Mathematical Concepts And Relationships In Solving Many Of Them, Which Enhanced The Learners' Ability To Employ Mathematical Knowledge In Solving Many Life Problems.
4. The Inclusion Of The Educational-Learning Design By Asking Questions Of The Type "Why, How, What" Developed The Learners' Ability To Explain, Justify, Mathematical Inference And Formulate Their Solutions In Different Forms, Which Helped To Achieve More Distinction.

Second: Conclusions

In Light Of The Findings Of The Two Researchers, We Draw The Following Conclusions:

1. There Is An Effectiveness Of The Educational -Learning Design According To The Progressive Inquiry Model In Improving The Mathematical Excellence Skills Of The Students Of The Experimental Group.
2. The Effectiveness Of The Educational-Learning Design Was Good In Mathematical Excellence Skills.
3. The Possibility Of Using The Design In Teaching Mathematics To The Intermediate Stage With The Available Capabilities In Schools.

Third: Recommendations

In Light Of The Findings Of The Two Researchers, They Recommend The Following:

1. Directing Planners And Developers Of Mathematics Curricula To Reconsider The Formulation Of Curricula In The Stages Of General Education In Light Of The Post-Constructivist Models In General And The Progressive Inquiry Model In Particular.
2. Directing Male And Female Teachers To Use The Educational - Learning Design According To The Progressive Inquiry Model, Due To The Effectiveness Of The Research In Improving Achievement And Mathematical Excellence Skills.

3. Including And Paying Attention To The Skills Of Mathematical Excellence In Mathematics Books In The Different Stages Of Education.

Fourth: Propositions:

In Light Of The Findings Of The Researchers, They Suggested The Following:

1. Conducting A Similar Study For Female Students And For The Same Stage To Find Out The Results For Females.
2. A Study Of Content Analysis Of Mathematics Books For The Secondary Stage In Light Of The Principles Of Post-Constructivism.
3. Analyzing Mathematics Curricula According To Mathematical Excellence Skills And Comparing Them With Excellence Curricula In Foreign Countries.

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THE EFFICACY OF A PROPOSED STRATEGY BASED ON THE (MARQUQRD) MODEL, ONE OF THE KNOWLEDGE MANAGEMENT METHODS IN THE ALGEBRAIC THINKING SKILLS OF THE SECOND INTERMEDIATE GRADE STUDENTS

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Abstract

The aim of the research is to identify the effectiveness of using a proposed strategy according to the (Marquqrd) model in the algebraic thinking skills of second-grade intermediate students in the schools of the General Directorate of Education in Babylon.

To achieve the goal, the following null hypothesis was formulated:

There are no statistically significant differences at the significance level (0.05) between the mean scores of the students of the experimental group, which were taught using the proposed strategy according to the (Marquqrd) model, and the control group that studied in the usual way in the pre-post test of algebraic thinking skills.

The research community, which represents the middle and secondary schools for boys within the General Directorate of Education in Babylon, was identified, and the Yahya bin Zaid (p.) middle school was

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randomly selected, and the research sample consisted of (67) students from the second intermediate grade students, and two groups were chosen randomly, with (33) students for the experimental group, and (34) for the control group.

For the purpose of collecting data for the research, a test of algebraic thinking skills was built, as the test in its final form consisted of (24) items of the objective type, multiple-choice.

The appropriate statistical analyzes were carried out (difficulty coefficient, ease, discrimination coefficient and effectiveness of the alternatives), and the psychometric properties were ascertained.

After the statistical tools were chosen to analyze the results of the application of the test, such as using the associated analysis of variance (ANCOVA), the results indicated that: -

1- The students of the experimental group outperformed the students of the control group in the test of algebraic thinking skills.

2- The use of the proposed strategy according to the (Marquqrd) model led to an improvement in the algebraic thinking skills of the students of the experimental groups compared to the students of the control group.

Keywords: knowledge management, (Marquqrd model), algebraic thinking.

Research problem

Given the importance of algebraic thinking and its skills, it is considered one of the most important mathematical competencies that must be refined for all students as one of the skills of the twenty-first century, and one of the basic competencies, for mathematical enlightenment, and one of the basic mathematical skills that international TIMSS (1) exams focus on. To treat weakness and low levels of students, And their aversion to learning mathematics, and developing students' ability to think is one of the main functions of education at all levels of education. Mathematics occupies a central place among all sciences by using mathematics to solve problems in those sciences. Especially with regard to algebraic problems and how to deal with symbols and variables and translate drawings and shapes into algebraic equations to solve mathematical problems, and because the educational process is a complex process and its elements are intertwined in sequential and interrelated steps, and each step is affected by the step that precedes it and affects the next.Especially with regard to algebraic problems, how to deal with symbols and variables, and the translation of drawings and shapes into algebraic equations to solve mathematical problems. And because the educational process is a complex process and its elements are intertwined in sequential and interrelated steps, and each step is affected by the step that precedes it and affects the next. Therefore, there was a need for a more enjoyable and lively educational process, Given the importance of knowledge management models as a way to solve problems when used in the areas of management in some institutions and organizations, including banks, educational institutions, companies and other institutions, This prompted the researchers to experiment with the use of a proposed strategy according to one of the knowledge management models, which is the (Marquqrdt) model, which may contribute to improving mathematics teaching and developing algebraic thinking. Therefore, it was necessary to use teaching strategies and models that contribute to better teaching and learning of mathematics.

As a result of the foregoing, the current research problem was developed in the second intermediate students' lack of algebraic thinking skills; so, the research problem is determined by addressing the following key question: -

What is the effectiveness of a proposed strategy according to (Marquqrdt) model in the algebraic thinking of second-grade intermediate students?

Research Importance

Additionally to the foregoing, the significance of the current research can be expressed in two ways, one theoretical and one practical:-

Theoretical importance:

1- Knowledge management is an organized process of searching for, selecting, organizing, and categorizing information in a way that increases the level of workers' understanding of it, as well as storing it in a way that improves the level of general intelligence.It gives the essential flexibility for work, protects knowledge from loss, and helps the process of utilising it in problem solving, decision making, and learning from the experiences it undergoes.

2- Directing the attention of those in charge of teaching and teaching mathematics in particular to the use of modern strategies and models in teaching that are concerned with algebraic thinking skills away from memorization and indoctrination.

3- This study is significant because it addresses a critical topic in mathematics, algebraic thinking, which is connected to worldwide mathematics standards, since the National Council of Teachers of Mathematics (NCTM, 2000) placed a high premium on it.

4- Recent trends in mathematics education programs emphasized the importance of developing algebraic thinking skills by employing modern teaching strategies in mathematics education.

Practical importance:

1- Proposing strategies according to knowledge management models and in line with modern trends, which emphasize the importance of employing ideas, opinions and innovation in the teaching process.
2- Providing a test of algebraic thinking skills for the second intermediate grade students.
3- Mathematics researchers benefit from teaching and learning mathematics through a conceptual framework about the variables of the study, including: suggested strategies according to knowledge management models, algebraic thinking skills, academic achievement in mathematics.

Third: Research

The research aims to identify the effectiveness of a proposed strategy according to the (Marquqrdt) model in the algebraic thinking skills of second-grade intermediate students.

Fourth: Research hypotheses

The following hypothesis was developed to answer the question of the research problem:
"There are no statistically significant differences at the significance level (0.05) between the mean scores of the students of the experimental group, which were taught using the proposed strategy according to the (Marquqrd) model, and the control group that studied in the usual way in the pre- and post-test of algebraic thinking skills.

$H_0: \bar{\mu}_1 = \bar{\mu}_2$
$H_1: \bar{\mu}_1 \neq \bar{\mu}_2$

Fifth: Research limits

The research is defined by all of the following:
• Students of the second intermediate grade in the intermediate day schools for boys affiliated to the General Directorate of Education in Babel.
• Mathematics book scheduled by the Iraqi Ministry of Education for the second intermediate grade, second edition, for the academic year (2022-2021).
• The first semester of the academic year (22-2021)

Sixth: Terms definition

1- Efficiency:

He defined it (Shehata and Al-Najjar, 2003) as: “The effect that the experimental treatment as an independent variable can have on one of the dependent variables” (Shehata and Al-Najjar, 2003: 230).

The researchers define it procedurally as: Using the proposed strategy according to the (Marquqrd) model in teaching the topics of the first four chapters of the first part of the mathematics course for the second intermediate grade,And measuring the change in the performance of second-grade intermediate students in algebraic thinking skills, and it is inferred from the difference between the mean scores of the experimental group and the control group in the post-test of algebraic thinking skills.

2- Strategy:

Defined by (Saada., 2018) as: “The educational concept that requires the development of a general teaching plan that combines the educational administration specialization and the specialization of curricula and teaching methods within it. From the educational administration comes the focus on the important decision-making process during the educational process inside or outside the classroom under the supervision of the school in it.As for the curricula and teaching methods, the procedures related to dealing withWith the study material that represents the content of the curriculum” (Saada, 2018: 49).

The researchers define it procedurally: a set of procedures, activities, and methods that the teacher chooses or plans to follow, one after the other, and in a sequential manner, using the available capabilities, to help students master the objectives of teaching.

3- Knowledge management: defined by:

(Al-Janabi, 2013) as: “An organized process of attracting, storing, disseminating, generating, and applying knowledge, in interconnected formats, to enhance learning and creativity, improve performance, and make decisions” (Al-Janabi, 2013: 66).

The researchers define it procedurally as a set of processes represented in (diagnosing knowledge, generating, storing and distributing it, and thus applying it), as these processes are used to teach second-grade students from the research sample,The researchers use a model of knowledge management, which is (**Marquqrdt**), which includes educational activities that focus on algebraic thinking skills and building and absorbing knowledge for the students of the experimental group..

4- Algebraic thinking:

(Dindyal, 2003) defined it as: "the student's ability to use symbols, algebraic relations, use multiple representation, use mathematical patterns and generalizations" (Dindyal, 2003: 14).

The researchers define it procedurally as: the ability of second-grade intermediate students to use symbols, algebraic relations, use multiple representation, as well as use mathematical patterns and generalizations to solve mathematical problems, analyze and interpret them, and it is measured by the degree that the student obtains in the test of algebraic thinking skills prepared by the researchers.

Theoretical Background

Knowledge management concept

(Trigg, 2000) states that knowledge management is a term used to describe the processes that bring learners and information technology together, to define knowledge acquisition, processing, storage, use and reuse, to develop understanding and create value (Trigg, 2000: 18)

Delong (2004) believes that knowledge management is a system of activities based on containing, compiling and formulating everything related to the critical and important activities of the educational institution with the aim of raising performance efficiency and ensuring the continuity of the institution's development in the face of the surrounding variables.

In other words, it is an institutional process aimed at coordinating and integrating data and information processing processes and technologies (Delong, 2004: 6), in addition to that knowledge management is a conscious organized effort directed by the teacher in order to capture, collect and classify,Organizing and storing all kinds of knowledge related to the educational institution's activity and making it ready for circulation and participation among learners in a way that raises the level of decision-making efficiency and organizational performance (Youssef, 2004: 7).

The emergence and development of knowledge management

The first to use the term knowledge management is DonMarchand since the beginning of the eighties of the last century, as the final stage of hypotheses related to the development of information systems, but he did not refer to it independently or as a separate work (Koening, 1999: 27).Then came the names of the first pioneers of knowledge management who are all credited with putting knowledge management on the map in some way, while different institutions and organizations were distinguished for their innovative work in the field of knowledge management.Japanese educational institutions also played an important role in the emergence of knowledge management and its applications (Abu Fara, 2004: 9-10).

(Bo Asha and Elia, 2012) adds that the knowledge management responsible for organizing and observing the production of intellectual capital, searching for it and achieving dialogue between learners, and that knowledge will be extracted through various meetings and participations, and creating an environment that allows dialogue and participation,Consequently, experiences are transferred from one learner to another. Knowledge is power, and this power can only be used in a positive social environment that combines trust, acquaintance, sincerity and interest. Thus, the relationship between intellectual capital, social capital, and knowledge management is a close and integrated relationship (Bo Asha and Elijah, 2012: 7).

From the foregoing, the researchers see that knowledge managementrefers to cooperation and partnership between learners and the exchange and dissemination of knowledge among them, and this comes through the mental processes of the learners, and what they possess of previous information related to a subject and using this information correctly and effectively to reach new knowledge.Thus, the required knowledge may reach all learners, and each learner is able to make the right decision and invent new information. Then the researchers reviewed a number of studies and research that dealt with knowledge management models, and they adopted one of these models, which is the (Marquqrdt) model, as follows:

Steps of the Marquqrdt Model (Marquqrdt, 2002)

Marquqrdt proposed a knowledge management model that consists of six stages that cover the process of transferring knowledge to the user through the following steps:

- Diagnosing knowledge: It aims to determine the knowledge of the learner, without which he cannot achieve the goal and does not preserve his knowledge with which he competes with his peers.Thus, it seeks to identify the knowledge that gives an added value to the learner to gain access to new knowledge.It is acquired by training and educating individuals, or through (the knowledge in their minds, or from similar previous experiences and practices, or by listening to lectures).

-Knowledge storage: Knowledge storage processes refer to the processes that include retention, maintenance, search, access and retrieval, and also refers to the importance of organizational memory, and knowledge is preserved through the exchange of experiences between individuals.

- Information analysis and use: It is meant to break down complex or compound information into small parts, specifying their names and types, establishing relationships between the parts, and making decisions related to other operations.

- Transfer and dissemination (expansion): Talking about the issue with as many ideas as possible and searching for full details.

-Knowledge application: This stage assumes the use and application of knowledge, as the entire knowledge must be applied to activities, and therefore all previous knowledge processes must be conducted. To achieve this, the teacher must make an effort to spread learning effectively, and the application of knowledge leads to learning processes That is, it comes through experimentation and application, which improves the level of knowledge and deepens it.

-Acquisition: focuses on organizing knowledge, linking it to other knowledge and enhancing it, which facilitates its retrieval, use and application in the future, as well as reorganizing declarative knowledge and transforming it into procedural knowledge to become meaningful and this is done through application and reflection (Marquqrdt, 2002: 26).

The researchers relied on this model in proposing a teaching strategy, which is the same steps above, in addition to two proposed steps, namely (installation), which represents the fourth step, as well as (inference) which represents the sixth step. The researchers explain the two added steps as follows:-

1) Composition:- Putting the elements or parts together in a new image to produce something innovative and unique. This skill is one of the divergent thinking skills that help the individual to discover and explore new ways of performing tasks or things. The installation skill provides the opportunity for invention and discovery of things.

2) Inference: It means the skill in extracting possible conclusions, and knowing what follows, through existing facts or logical premises, and is used to help determine what can be followed logically even if some data is not clear, prediction is an important step in the process of solving the problems.

The proposed strategy, according to the Marcus credit model, is represented by the following steps: **(Knowledge diagnosis, knowledge storage, information analysis and use, installation, transmission and dissemination (expansion), inference, knowledge application, acquisition)** respectively.

Algebraic Thinking

Battista and Brown (1998) see that algebraic thinking is important for students to use algebra in a meaningful way, and that teaching should focus on understanding rather than just exchange symbols.Throughout their mathematics studies, students should have opportunities to think and talk about general procedures for operations, numbers, and quantities, so that they do not eventually express the procedures using algebraic symbols and think about them (Batista and Brown, 1998: 5).

While Kaput & Blanton (2005) see that algebraic thinking plays a vital role in linking what the student studies and learns in the primary stage of arithmetic principles, and what he studies in the middle stage about relationships, functions, and the use of variables.In addition to continuing that link to what students learn in calculus in secondary school, algebraic thinking provides us with a strong foundation in building understanding around abstract mathematical thinking (Kaput & Blanton, 2005: 99).

(Al-Shehri, 2020) stated that algebraic thinking includes mental habits that build ways of thinking about the mathematical content in the field of algebra, especially in quantitative situations, which make the relationships between variables clear and specific, and in this context, algebraic thinking takes two paths,**The first** is the ability to think about unknown quantities in known ways, and **the second** is to build a meaning for symbols and operations using previous mathematical experiences in the field of arithmetic. He stressed the possibility of developing algebraic thinking by designing activities in mathematical representations, and activities that enhance students in recognizing and analyzing patterns, analyzing and representing relationships, building mathematical arguments and explanations, and using algorithms in correct ways (Al-Shahri, 2020: 274).

Algebraic thinking skills

Dindyal (2003: 183) studied the definitions of algebraic thinking and found that "it revolves around three main skills" as follows:

First: - The skill of using algebraic relations and symbols: It means the use of mathematical symbols and relations in a wide range in mathematics to express (units of measurement, constants, unknowns, generalizations of properties of numbers and translation of geometric shapes).

Second: - The skill of using multiple representations: It means the use of drawings, tables, and drawings that serve to facilitate gaining information and a deep understanding of the content of the material, and linking mathematics with life situations.

Third: - The skill of using patterns and generalizations: The modern curricula are clearly and largely concerned with mathematical patterns, and this was confirmed by the National Council of Teachers of Mathematics (NCTM, 2000) the great role that patterns play in developing algebraic thinking among students,Through research and studies, a variety of patterns emerged, such as: graphic patterns, geometric patterns, and numerical patterns.

Esseler and others (2014) pointed out to (Obaida, 2016) the importance of teaching algebra in the early stages, and the need to focus on developing algebraic thinking skills, developing algorithmic skills, and solving algebraic problems, especially verbal problems that support students in translation and mathematical representations (Obaida, 2016: 120).

After the researchers reviewed the Arab and foreign studies and research that dealt with algebraic thinking skills, it was found that the skills developed by (Dindyal, 2003: 183) are appropriate for the second intermediate grade stage of the research sample, so the researchers adopted them in constructing the test.And their opinion of algebraic thinking.

Second: Literature of Review

Previous studies include one aspect, which is studies that dealt with algebraic thinking skills, as for the independent variable (Marquqrdt) model, there are no previous studies in the field of teaching methods (according to the researchers’ knowledge).

Research and studies that dealt with algebraic thinking skills, as shown in Table (1):

Table (1) *studies dealing with algebraic thinking skills*

Study country	Sample size	Study objective	Results
Hernon2005 America	Three Teachers	Knowing the nature of algebraic thinking and designing educational activities aimed at	The results indicated the effectiveness of the training program based on the use of the constructivist

	With Their Students	developing algebraic thinking among students in the first years of education	approach in developing teachers' beliefs about the importance of algebraic thinking
Study (Albahria) 2017 Amman	57students	Knowing the effect of teaching according to mathematical power on the achievement and algebraic thinking of the ninth grade students	The results indicated that there was a statistically significant difference between the mean scores of the experimental and control group students in the achievement test and the algebraic thinking test, in favor of the experimental group.
Al enizi 2020 Saudi Arabia	51 students	Recognizing the effect of activities based on procedural fluency in thinking and problem-solving ability among middle school students	The results showed that there was a statistically significant difference in algebraic thinking in all its skills and ability in algebraic problem, attributed to the method of teaching, and in favor of the experimental group.

Research procedures

First: Research Methodology:

The researchers chose the experimental method to achieve the objectives of this research, which is characterized by taking experimentation as a tool to test the validity of hypotheses, and its ability to control the various factors that can affect the behavior studied.

Second,Research Community

The research community consisted of students of the second intermediate grade in the middle day schools affiliated to the General Directorate of Education of Babylon Governorate for the academic year 2022-2021, as the total number of the community of students of the second intermediate grade reached (6921) students.

Third: Research Sample:

The sample size for the current research was (76) students, (33) for the experimental group and (34) students for the control group from Yahya Bin Zaid Intermediate School.

Fourth: Research Tools:

One of the research requirements is to prepare a tool that measures the dependent variable, which is (the test of algebraic thinking skills), in order to know the achievement of the research objectives and hypotheses, as the researchers built the tool according to the following steps:-

1) The theoretical concept of algebraic thinking was defined, and the researchers relied on Dindyal (2003) classification of algebraic thinking skills, which will be adopted in the construction of the test items.

2) The algebraic thinking skills were presented to a group of arbitrators specializing in mathematics teaching methods for their validity and suitability to the research sample and to ascertain the indicators for each skill, and after reviewing the opinions and observations, they were approved by more than (80%) of the arbitrators.

3) The test was prepared and it consisted in its initial form of (26) items of the objective type, as these items measure the three skills of algebraic thinking that were identified previously.

1)The researchers prepared special instructions for testing algebraic thinking skills, and they took into account clarity and indicated that the results obtained are in order to complete the requirements of the research and have nothing to do with other purposes.The members of the research sample were asked to answer all the test paragraphs and not to leave any paragraph without an answer, and a small circle is placed around the letter that represents the correct answer.

2)The researchers presented the paragraphs of the algebraic thinking skills test consisting of (26) items of the objective type (multiple choice), to a group of arbitrators and specialists in mathematics and its teaching methods, to express their opinions and observations about the validity of these paragraphs, and its paragraphs were approved by more than (80%) of the opinions of the arbitrators. And the test is ready in its initial form.

3) To identify the clarity and understanding of the paragraphs of the test of algebraic thinking skills by the exploratory application sample, in addition to the clarity of the instructions for answering it, and calculating the time it takes for the student to answer,The test was applied to a sample of (100) students of the second intermediate grade, as the students were asked to read the instructions first and then pay attention to the test paragraphs and inquire about any ambiguity, and it was found that the instructions were clear and all the paragraphs were understandable to all students, and the time taken to answer was calculated It was (75) minutes.

4)Exemplary answer keys were set for the test paragraphs, and one grade was given for the correct answer, zero for the wrong answer, and the answers left or indicated for more than one answer were considered a wrong answer, and the range of scores ranged between (0-26) degrees, and the overall degree for the test became (26) Degrees

5) Statistical analyzes were conducted for the test items and the coefficients of difficulty, simplicity, discrimination and effectiveness of the alternatives were calculated, after the test was applied to an

exploratory sample, and all items were acceptable except for the third paragraph whose difficulty was (0.83) and the eighth paragraph had a difficulty of (0.81), so it was deleted.

Validity Test

The researchers presented the paragraphs of testing algebraic thinking skills to a number of arbitrators in mathematics and its teaching methods, and through their observations and opinions, and making sure that the test items measured the skills that were previously identified, the phrasing of some of the paragraphs was modified, and then the test became apparently honest.

Test Stability

The Kewder-Richardson equation -20 was adopted to extract the reliability coefficient to measure the internal homogeneity of the test items, and the method also depends on calculating the correlations between the item scores.The reliability coefficient of the test was (0.79), meaning that the test had a good percentage of stability, and the test became composed of (24) items in its final form.

Fifth: The final application of the experiment to the research sample

For the purpose of answering the research questions and verifying its hypotheses, and after conducting the statistical analyzes of the test

For the purpose of answering the research questions and verifying its hypotheses, and after conducting the statistical analyzes of the test with its (24) paragraphs, the post-test of the algebraic thinking skills was applied on Wednesday (19/1/2022), after informing the students before the test of a sufficient period to prepare properly.

Sixth: Statistical means of interpreting the results

The appropriate statistical methods were used for the research, including arithmetic mean, standard deviation, analysis of variance test, Kewder's equation -20 and Pearson's correlation coefficient, as well as the coefficients of difficulty, ease, discrimination coefficient, and the effectiveness of alternatives for the objective paragraphs.

First: Presentation and interpretation of the results

In order to find out the results related to the effectiveness of the proposed strategy according to the (Marquqrd) model in the algebraic thinking skills of second-grade intermediate students, the following null hypothesis was tested:

Null Hypothesis:

"There are no statistically significant differences at the significance level (0.05) between the mean scores of the students of the experimental group, which were taught using the proposed strategy according to the (Marquqrd) model, and the control group that was taught in the usual way in the pre- and post-test for algebraic thinking skills.

In order to find out whether the difference between the mean of the experimental group and the control group on the pre- and post-test of algebraic thinking skills was statistically significant at the significance level (0.05), and in order to isolate the proportion of the extraneous variable of the pre-test for algebraic thinking skills statistically, the accompanying or joint analysis of variance (ANCOVA) was used.Which makes the results more accurate by modifying the data in light of the differences that exist between the students' scores before the start of the experiment, and in order to identify the statistically significant differences between the average scores of the students of the experimental group who studied according to the proposed strategy according to the (Marquqrd model),And the students of the control group who studied in the usual way in the pre and post test of algebraic thinking skills, as shown in Table (2):-

Table (2): *The results of the (ANCOVA) test for the scores of students of the first experimental group and the control group in the test of algebraic thinking skills*

Variable	ANCOVA	Degree of freedom	Least squares sum	Average least square	(F) value	Statistical significance
Algebraic Thinking Skills	Between The Groups	1	819.132	819.132	445.916	**Significant**
	Within The Groups	64	117.566	1.837		

It is clear from the above table that the calculated "F" value (445,916), which is greater than the tabular "P" value (3.99) at the level of significance (0.05) and with a degree of freedom (65), and because the calculated is higher than the tabular, then there are statistically significant differences,And after isolating the extraneous variables from the pre-test on the students' performance in the post-test, the modified arithmetic averages were extracted, and to determine the direction of the difference and in favor of any group we use Scheffe's test to find out the direction of the differences between the adjusted averages as in Table (2).

Table (2) *Scheffe test results for the scores of the first experimental group and the control group in the test of algebraic thinking skills*

Dependent Variable	The Group	Number	Average Arithmetic Mean	Calculated (F)Value	(F)Table Value	Statistical Significance At The

						Significance Level 0.05
Algebraic thinking skills	Experimental	33	[a]19.901	447.966	3.99	**Significant**
	control	34	[a]12.891			

a: Pretest percentage as an extrinsic variable = 6.4179

It is clear from the above table that the arithmetic average of the scores of the first experimental group (19.901) is higher than the arithmetic mean of the scores of the control group (12.897), meaning that the real performance of the first experimental group is better than the real performance of the control group in the test of algebraic thinking skills**.**Since the computed adjusted value of (447.966) is higher than the tabular value of (3.99), so we reject the null hypothesis and accept the alternative hypothesis, meaning that there are statistically significant differences (0.05) between the scores of the first experimental and control groups and in favor of the experimental group.

In order to verify the effectiveness of using the proposed strategy according to the (**Marquqrd)** model in the algebraic thinking skills of the experimental group, the modified Black gain ratio equation was calculated to find the value of the gain between the mean of the pre-test (6.33) and the post-test (19.88), as the gain equation reached (1.31) This means that the proposed strategy is highly effective in comparison with the acceptable limit of effectiveness, which is (1.2) set by Black.

Second: Conclusions

1-There is an effectiveness of the proposed strategy in raising the algebraic thinking skills of the students of the experimental group in mathematics compared to the students of the control group who were taught in the usual way.

2-The proposed strategy made the learner the focus of the educational process, paying attention to his activities and mental abilities, and this is what modern education focused on.

3-Emphasis on the work of groups during teaching because of its great importance in diagnosing knowledge, building it and using it to reach new knowledge, as well as making the student accept the opinions of others and exchange and disseminate information among them.

Third: Recommendations

In light of the results of the study, the following was recommended:

1- Teaching mathematics to the second intermediate grade and other stages using the proposed strategy in the current research, due to its great role in achievement and algebraic thinking skills in mathematics.

2- Conducting training courses to train teachers on how to prepare and implement the activities of the proposed strategies, and to clarify their effective role in developing mathematical skills, including algebraic thinking skills.

3- Preparing a guide for the teacher based on developing algebraic thinking skills, as well as how to follow the proposed strategy in the current research.

Fourth: Propositions

In the current research, we suggest conducting the following future studies:

1- Studying the effectiveness of the proposed strategy according to the (Marquqrd) model in different study stages.

2- Studying the development of algebraic thinking among different academic stages and other categories of students, and making comparisons between them.

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DEVELOPMENT OF DIGITAL COMPETENCIES IN LATIN AMERICAN UNIVERSITY STUDENTS

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Abstract

The present research article aimed to analyze the production and publication of research papers concerning the study of the variable referred to the development of digital competencies in university students in Latin America and to know the main characteristics of the volume of publications registered in Scopus database during the period 2016-2021. A total of 245 publications were identified. The information provided by said platform was organized by means of tables and figures categorizing the information by Year of Publication, Country of Origin, Area of Knowledge and Type of Publication. Once these characteristics were described, the position of different authors regarding the proposed topic was referenced by means of a qualitative analysis. Among the main findings of this research, it is found that Mexico, with 76 publications, is the Latin American country with the highest production. The area of knowledge that made the greatest contribution to the construction of bibliographic material related to the study of the development of digital competencies in university students was social sciences with 158 published documents, and the type of publication that was most used during the period mentioned above was the journal article, which represents 63% of the total scientific production.

Keywords: digital competences, university students, Latin America.

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1. Introduction

The use of technological tools is increasingly becoming notorious in education, so the instruction in the development of the necessary skills to give them a correct use is of great importance in all educational actors. University students have this need because with the development of digital competences they can take advantage of technological resources in their professional training process, since they help access to an unlimited source of information which are essential in the construction of knowledge. These digital competencies are considered basic for the citizen of the 21st century (Calatayud et al., 2018), so it is necessary to develop them from the professional training process. University students have basic knowledge in technologies as they were born in the digital era and have been familiar with technological tools since childhood (Medina Romero et al, 2021). Now, this does not mean that there is no digital illiteracy within this generational group, because although they have knowledge in the digital field, these are focused on social networks and playful platforms, so they do not have a good instruction on how to use educational platforms, so it arises as a problem and forces educational institutions to provide students with knowledge that allows them to develop these skills, all this in order to have access to a quality education.

These digital competencies are very important in the formation of integral professionals, since these skills are a fundamental requirement in the labor market of the XXI century which is increasingly in line with the objectives and requirements of the industry 4.0 which is responsible for the automation and digitization of processes in order to make operations easier. These competencies became notoriously important at the beginning of 2020 when a health crisis was declared by COVID 19 which forced to change the traditional educational model, being by means of technological tools the only way to continue with the pedagogical processes. Therefore, it is important to know in terms of bibliographic resources, the current state of research related to the Development of digital competencies in university students, so a bibliometric analysis of the scientific production registered in Scopus database during the period 2016-2021 is proposed to answer the question How has been the production and publication of research papers related to the study of the variable Development of digital competencies in university students in Latin America during the period 2016-2021?

2. General Objective

To analyze from a bibliometric and bibliographic perspective, the production of high impact research papers on the variable Development of digital competencies in university students during the period 2016-2021.

3. Methodology

Quantitative analysis of the information provided by Scopus is performed under a bibliometric approach on the scientific production concerning the development of digital competences in university students. Also, from a qualitative perspective, examples of some research papers published in the area of study mentioned above are analyzed from a bibliographic approach to describe the position of different authors on the proposed topic.

The search is performed through the tool provided by Scopus and the parameters referenced in Table 1 are established.

3.1 Methodological design

Table 1. *Methodological design.*

	PHASE	DESCRIPTION	CLASSIFICATION
PHASE 1	DATA COLLECTION	Data was collected using the Scopus web page search tool, through which a total of 245 publications were identified.	Published papers whose study variables are related to the development of digital competencies in university students Research papers published during the period 2016-2021. Limited to Latin American countries. Without distinction of area of knowledge. Without distinction of type of publication.
PHASE 2	CONSTRUCTION OF ANALYSIS MATERIAL	The information identified in the previous phase is organized. The classification will be made by means of figures and tables based on data provided by Scopus.	Word Co-occurrence. Year of publication Country of origin of the publication. Area of knowledge. Type of publication

PHASE 3	DRAFTING OF CONCLUSIONS AND FINAL DOCUMENT	After the analysis carried out in the previous phase, the study proceeds to the drafting of the conclusions and the preparation of the final document.	

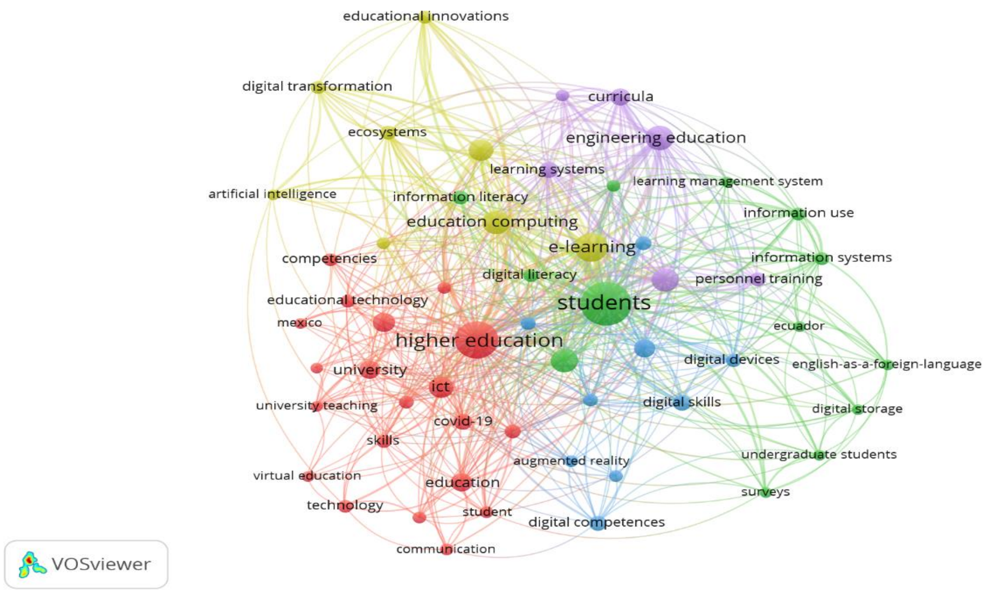
Source: Own elaboration (2022)

4. Results

4.1 Co-occurrence of words

Figure 1 shows the co-occurrence of keywords within the publications identified in the Scopus database.

Figure 1. *Co-occurrence of words*



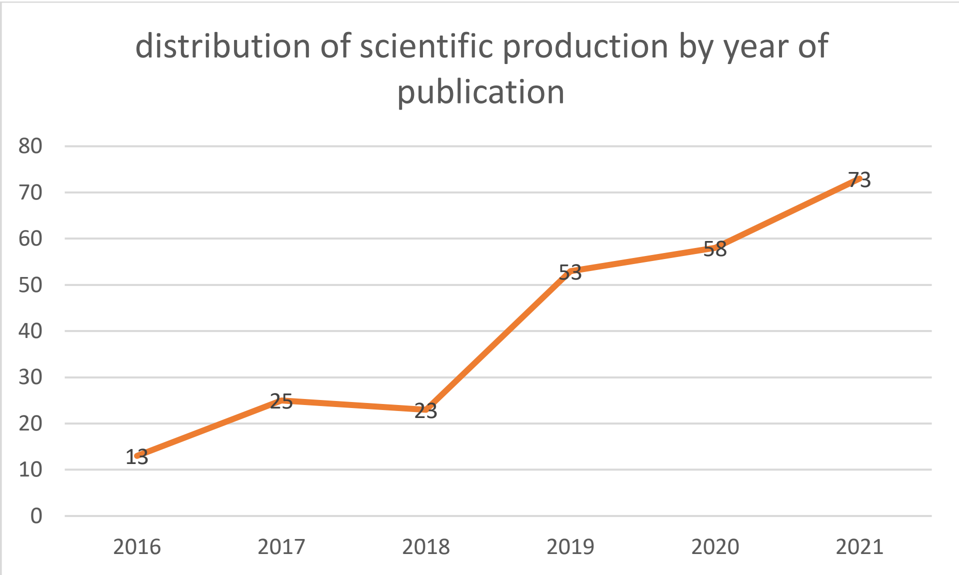
Source: Own elaboration (2022); based on data provided by Scopus.

As shown in Figure 1, students and higher education are the most used keywords which are also part of the variables under study and refer to the group to which this study is applied being directed to know the development of digital competences of university students. Other keywords were also found, such as digital literature, e-learning, educational technology, digital devices and undergraduate students which refer to the new educational model which is mediated with ICT facilitating access to education from anywhere if you have access to the Internet and availability of technological tools. University education, digital skills, learning systems, digital transformation and educational innovation are keywords that show the changes made in recent years in order to strengthen the digital skills of future professionals and to couple the educational processes according to what the labor field requires and the updates to the methodologies trying to make the knowledge better assimilated by students according to the particular needs and the social context in which they develop in order to help the development of the community and to give a use to the information learned.

4.2 Distribution of scientific production by year of publication.

Figure 2 shows how the scientific production is distributed according to the year of publication, taking into account the period from 2016 to 2021.

Figure 2. *Distribution of scientific production by year of publication.*



Source: Own elaboration (2022); based on data provided by Scopus.

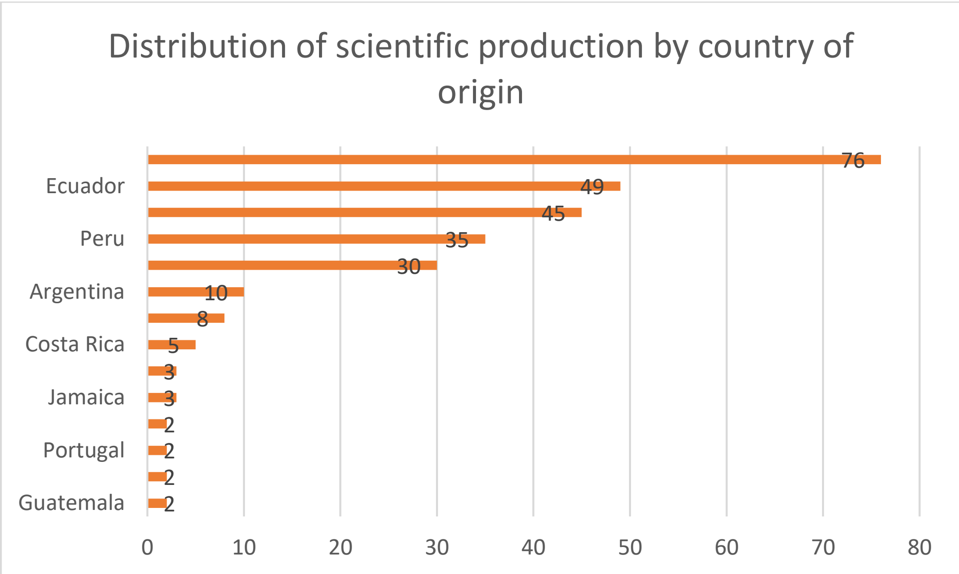
2021 is the country with the highest number of publications registered in Scopus related to the variables under study presenting 73 publications in total within which is the title "*The experience of higher education students in Mexico during the COVID-19 pandemic confinement*" (Zapata-Garibay, et al, 2021). This document seeks to investigate the experiences of graduate and undergraduate students in relation to the change from face-to-face modality to ERT in the context of health emergency due to the outbreak of COVID-19 through surveys to 660 students from 38 universities and 22 states throughout Mexico where it was evidenced that Students from private universities declared a greater use of technological tools and students from public universities by experiencing more problems to access

digital tools. Therefore, it is concluded that universities, teachers and students were not prepared to implement the distance learning strategy and training in the use of educational tools is necessary.
In second place is 2021, which presents 58 documents registered in Scopus within which is "*Disruptive innovation of educational digital tools and the achievement of communicative skills in university students*" (Mayuri et al., 2020). This document has as its main objective to contrast the relationship between digital tools and the achievement of communication skills in university students, giving them the tools and basic skills to develop a critical sense that allows them to choose the most suitable platforms for their training process, so this publication is based on a new paradigm of learning and teaching, generating access to innovation and autonomy in the use of digital spaces.

4.3 Distribution of scientific production by country of origin.

Figure 3 shows the distribution of scientific production according to the nationality of the authors.

Figure 3. *Distribution of scientific production by country of origin.*

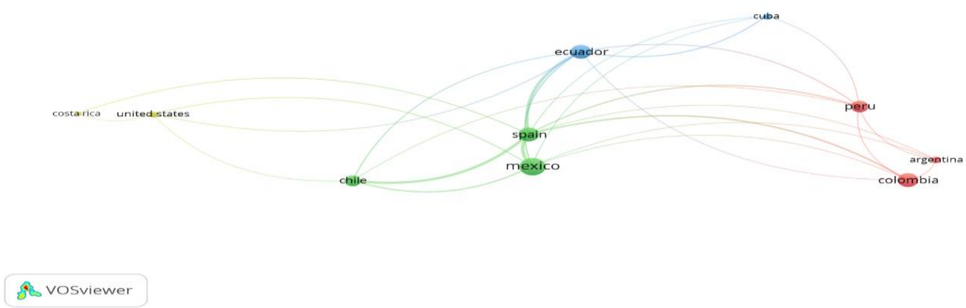


Source: Own elaboration (2022); based on data provided by Scopus.

Mexico is the Latin American country with the highest contribution to publications related to the development of communication competencies in university students, presenting a total of 76 documents, among which is "*Technological appropriation, digital skills and digital competencies of university students: Systematic mapping of the literature*" (Morales et al., 2021). This document has as its main objective to respond to some of these challenges, from the approach to the field of innovation and educational research through an analysis of 170 articles and a book in databases on Technological appropriation and digital competencies taking into account the great digital gap that is presented in Mexico for their access and knowledge. It concludes by highlighting the importance of these new concepts since they are part of the reality of current educational models and how university students have been trained to understand them.

At this point, it should be noted that the production of scientific publications, when classified by country of origin, presents a special characteristic and that is the collaboration between authors with different affiliations to both public and private institutions, and these institutions can be from the same country or of different nationalities, so that the production of an article co-authored by different authors from different countries of origin allows each of the countries to add up as a unit in the overall publications. This is best explained in Figure 4, which shows the flow of collaborative work from different countries.

Figure 4. *Co-citations between countries.*



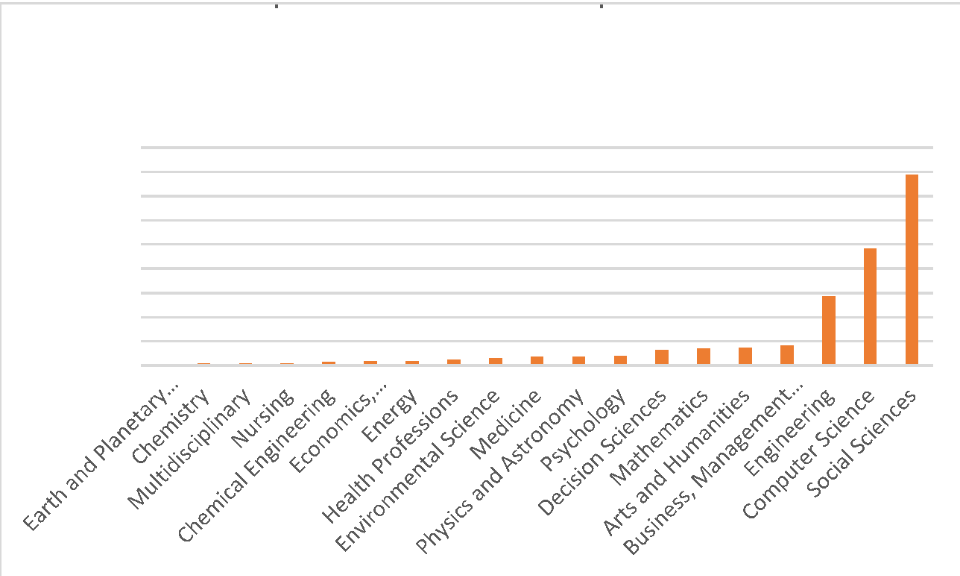
Source: Own elaboration (2022); based on data provided by Scopus.

As mentioned above, Mexico is the Latin American country with the largest number of publications related to the variables under study, within these publications there are documents in collaboration with authors from countries outside Latin America, such as Spain and the United States, which shows the interest of other countries in the existing literature on digital competencies in university students in Latin America. In second place is Ecuador with 49 documents among which is "*Innovation in the university classroom through augmented reality. Analysis from the perspective of Spanish and Latin American students*" (Cabero-Almenara et al., 2021). This document analyzes the experiences of university innovation with inverse technologies, so they conduct a study with 202 students in relation to the advantages and disadvantages of AR and Augmented Reality apps used in Emerging educational models. In conclusion, students perceive the development of cognitive skills and the development of competencies as the main advantages of augmented reality but also evidence one of the major disadvantages of this methodology and that is the digital divide.

4.4 Distribution of scientific production by area of knowledge

Figure 5 shows how the production of scientific publications is distributed according to the area of knowledge through which the different research methodologies are executed.

Figure 5. *Distribution of scientific production by area of knowledge.*



Source: Own elaboration (2022); based on data provided by Scopus.

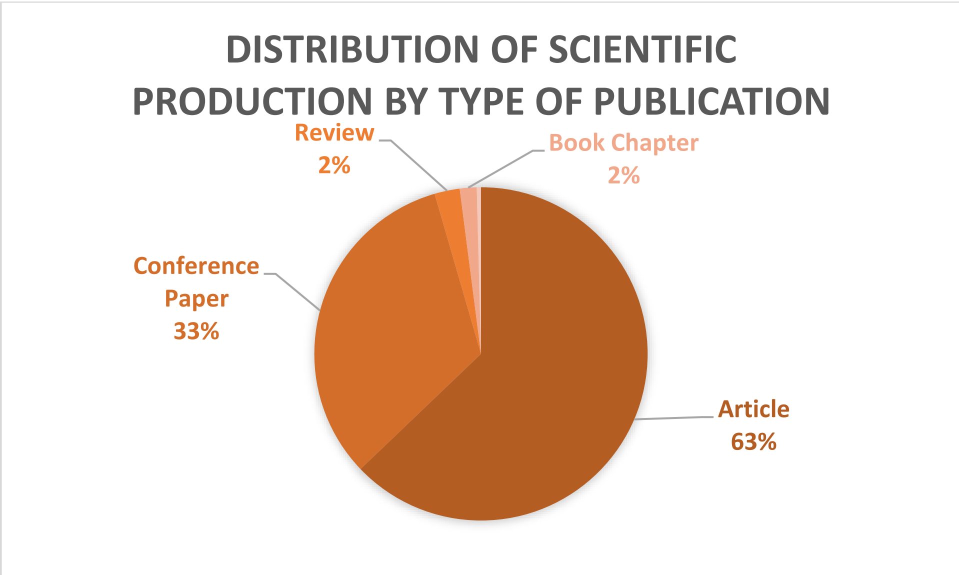
Social sciences is the area of knowledge with the largest number of contributions through the theories that are framed in it, in the search for new knowledge on the development of digital competencies of Latin American university students presenting 158 documents in total within which is "*Analysis of the digital competence of university students using latent classes*" (Burgos-Videla et al., 2021). This document has as main objective to characterize the Latent Classes that arise from the analysis of the level of digital competencies, use and consumption of applications and/or services through the Internet. Therefore, a survey was conducted to 4762 undergraduate and graduate students where it was shown that there are four groups or classes clearly differentiated in the use and consumption of ICT in different ways for their activities, both personal and academic, which allows to identify different development of digital skills which do not depend on factors such as gender and age. Therefore, this study is the initial part for projects that seek to determine the technological skills needed in university students.

In second place is computer science where 97 documents were written following the guidelines of the topics related to this area within which is "*Análisis de los Recursos Tecnológicos que Utiliza el Alumnado Universitario de Estudios de Educación*" (García-Martínez et al., 2021). In this publication, the authors propose the main objective of evaluating the digital competence of education students and analyzes the frequency of use of various technological resources by students in their last year of education (González, 2021). In this publication, the authors' main objective is to evaluate the digital competence of education students and analyze the frequency of use of various technological resources by students in the last year of their education degree in a Latin American university. 425 students were questioned and it was found that in the educational field the most used tools are those designed for collaborative work and information storage, as well as those that facilitate the search for information and with minimal use of social networks.

4.5 Type of publication

Figure 6 shows how the bibliographic production is distributed according to the type of publication chosen by the authors.

Figure 6. *Type of publication.*



Source: Own elaboration (2022); based on data provided by Scopus.

As shown in Figure 6, within the different types of publications, 63% of the total number of documents identified through Phase 1 of the Methodological Design, correspond to Journal Articles, among which is the one entitled "*Centennial generation: Epistemic challenges for university education*" (Guevara et al., 2021). This document aims to specify the epistemological and pedagogical challenges posed by educating the generation of digital natives or centennials by analyzing them in 3 large groups which are the characteristics of the centennial generation, the profile of the teaching staff for centennial education and the new methodologies and technological innovations. Therefore, it was concluded that it is necessary to specify the epistemological and pedagogical challenges posed by educating the generation of digital natives or centennials in order to guide their education starting from the construction of a comprehensive professional profile.

In second place are the conference proceedings which represent 33% of the total number of documents identified in this study, within these documents is "*Taking advantage of digital tools for a better virtual* *teaching-learning process in a private university in Lima*" (Andrade-Arenas et al., 2021). This document analyzes the impact of the use of digital tools in the teaching-learning process for which surveys were conducted to 51 students and 19 teachers of the computer science career of the University of Sciences and Humanities where it was evidenced that before 2020 both students and teachers did not have the necessary knowledge to use educational platforms and videoconferencing and that at the beginning of 2020 where they were trained could see the improvement in their digital skills.

5. Conclusions

Thanks to the bibliometric analysis proposed in this research, it can be determined that Mexico is the Latin American country with the largest number of bibliographic records in Scopus database during the period between 2016 and 2021 with a total of 76 documents. The scientific production related to the study of the Development of digital competencies in university students has presented an important growth during the period previously indicated, going from 13 publications in 2016 to 73 units in 2021, that is, it was possible to increase in a great way the creation of bibliographic records in a period of 5 years, which indicates the importance of researching on how university students obtain technological skills for the correct use of educational platforms that make possible to have a quality education through the new educational model of mediated education which is based on ICT.

Communication skills are already an essential part of students and future professionals as they are necessary for most of the procedures performed on a daily basis, so developing these skills from the academic training is of great importance. This is a key factor in the latest educational innovations by implementing educational models through the use of technological tools, an educational model used at the beginning of 2020 due to the health crisis caused by COVID 19 and to ensure compliance with biosafety protocols, which forced educational institutions to change their methodologies.

Due to this situation, the development of these competencies became even more necessary to evidence digital illiteracy, since although university students were born in the digital era, they were not familiar with educational platforms, which leads to shortcomings when it comes to consolidating knowledge. This digital illiteracy is also given by the digital divide that exists in Latin America where not everyone can access the Internet or digital tools.

All of the above, allows to conclude highlighting the importance of knowing the theory or bibliographic resources that seek to awaken the students in strengthening their technological skills as they help access a quality education and also to form them in an integral way allowing the development of skills that are currently in high demand by the labor field. That is why it highlights the need for studies such as the one presented in this document, which make a tour of those texts that address the above topic, in order to give the reader a broad view of the current situation of the literature on the Development of digital skills in college students in Latin America.

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EDUCATIONAL QUALITY MANAGEMENT IN LATIN AMERICA

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Abstract

A bibliometric analysis was carried out on the production and publication of research papers related to the study of the management variable in the quality of education in Latin America. The purpose of the analysis proposed in this document is to know the main characteristics of the volume of publications registered in Scopus database during the period 2016-2021 in Latin American countries, achieving the identification of 1183 publications in total. The information provided by said platform was organized by means of tables and figures categorizing the information by year of publication, Country of Origin, Area of Knowledge and Type of Publication. Once these characteristics were described, a qualitative analysis was used to refer to the position of different authors on the proposed topic. Among the main findings of this research, it is found that Brazil, with 589 publications, is the Latin American country with the highest production. The area of knowledge that made the greatest contribution to the construction of bibliographic material referring to the study of management in the quality of education was Medicine with 538 published documents, and the type of publication that was most used during the period mentioned above was the journal article, representing 71% of the total scientific production.

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Keywords: Educational management, quality in education, Latin America.

1. Introduction

Quality in education is defined by different factors such as having adequate infrastructure and tools in the classroom that generate an optimal environment for the development of academic activities, having trained teachers with both specific knowledge and pedagogical skills to ensure that all students receive and assimilate the same information depending on their particular needs, and providing students with techniques, strategies and skills that allow them to be an active part of the construction of their knowledge. Certainly, there is a relationship between educational quality and the management of the institutions, since depending on the strategies and decisions taken by the educational institutions will depend on the methodologies implemented in the classroom, which are an important factor for the perception of a good educational quality. Educational management is a fairly broad concept that is not limited only to the administrative decisions of educational institutions, but also encompasses the educational culture and planning factors on which the relevance, effectiveness, equity and efficiency of education depend, as the essential pillars of a comprehensive education (Schmelkes, 2000; Gamboa, 2019).

Quality management in education should be focused on implementing innovations, evaluating human talent AND redesigning educational methodologies that allow students to develop theoretical knowledge, social awareness and critical thinking that allow the student to develop a position on problems that develop in their social context depending on the knowledge obtained in the classroom. Quality education must recognize the particular needs of each student taking into account the different ways of learning and implementing techniques that allow all students to assimilate the information and knowledge imparted from their uniqueness giving the possibility to all students to obtain the same educational level. Educational quality determines the development of society, since the better the educational level of the vast majority of people, the greater the number of suitable and competent professionals for what the market demands, being now important to develop both theoretical knowledge and cross-cutting skills and technological competencies.

Therefore, it is important to know in terms of bibliographic resources, the current state of research related to Management in the quality of education in Latin America, so a bibliometric analysis of the scientific production registered in Scopus database during the period 2016-2021 is proposed to answer the question How has been the production and publication of research papers related to the study of the variable Management in the quality of education in Latin America during the period 2016-2021?

2. General Objective

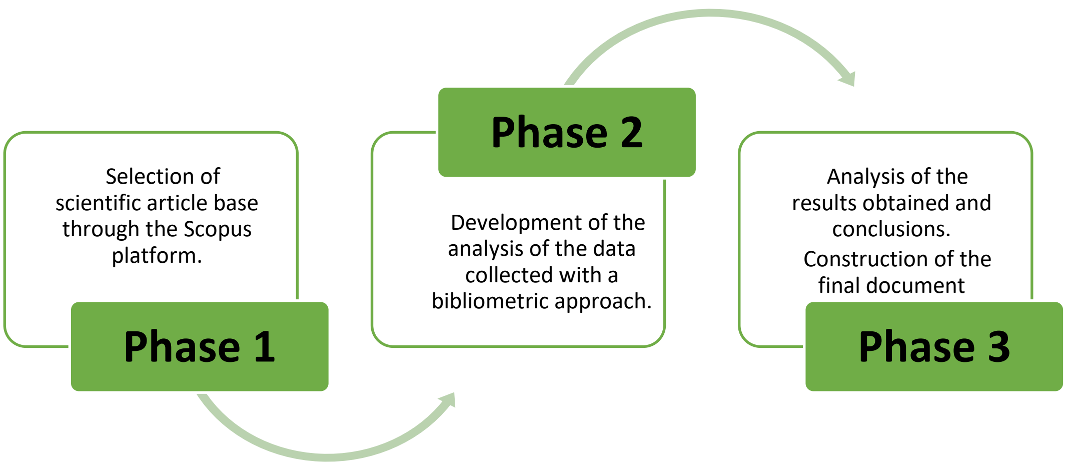
To analyze from a bibliometric and bibliographic perspective, the production of high impact research papers on the variable Management in the quality of education in Latin American organizations during the period 2016-2021.

Methodology

Quantitative analysis of the information provided by Scopus is performed under a bibliometric approach on the scientific production related to Management in the quality of education. Also, from a qualitative perspective, examples of some research papers published in the area of study mentioned above are analyzed from a bibliographic approach to describe the position of different authors on the proposed topic.
The search is performed through the tool provided by Scopus and the parameters referenced in Table 1 are established.

3.1 Methodological design

Figure 1. *Methodological design.*



Source: Own elaboration (2022)

The present research work was developed through the completion of the three phases listed in Figure 1, which are explained below.

3.1.1 Phase 1: Database Selection

The first phase consists of the selection of articles or research papers that will be part of the analysis that will help to solve the research question and fulfill the objective. The search filters for the selection of the material to be analyzed are the following.

✓ Research works (articles, conference papers, books, book chapters, among others) whose variable of study is Educational Management, Quality in Education.

✓ Research papers published within the period 2016-2021.

✓ Research papers published in Latin American countries.

The application of Phase 1 resulted in a total of 1183 documents that will be classified for further analysis as indicated in Phase 2.

3.1.2 Phase 2: Bibliometric analysis

Once the 1183 articles resulting from the application of Phase 1 were identified, they were classified using the *Analyze Search Results* tool offered by Scopus as part of its mechanisms for analyzing information. This classification consists of analyzing the information from different study groups, for example, authors, country of origin of the publication, year of publication and area of knowledge to which the research work belongs.

Once the information is organized by means of graphs and/or tables, the study proceeded to its analysis from the bibliometric approach, which would also allow to analyze through examples, citing some articles, the position of the authors regarding quality management in the educational sector.

3.1.3 Phase 3: Conclusions and construction of the final document

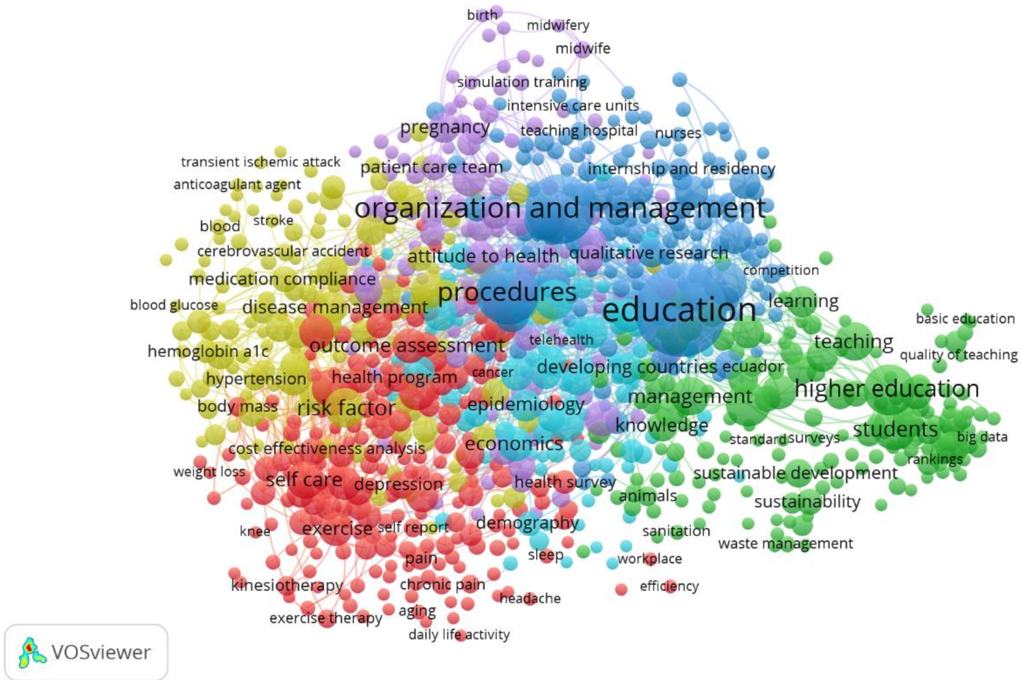
After classifying the information as indicated in Phase 2, the study proceeded to the analysis of the results from a bibliographic approach for the construction of the conclusions through the discussion of results, ending this research with the writing of the final document.

4. Results

4.1 Co-occurrence of words

Figure 1 shows the co-occurrence of keywords within the publications identified in the Scopus database.

Figure 1. *Word co-occurrence*



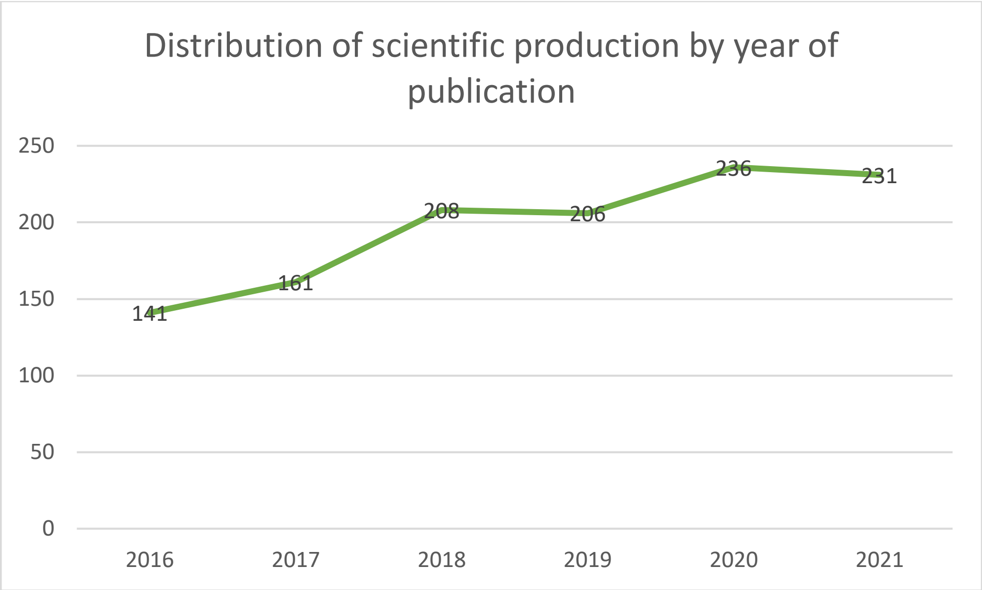
Source: Own elaboration (2022); based on data provided by Scopus.

As shown in Figure 1, the most used keyword is *education,* which is one of the variables under study and refers to all pedagogical actions aimed at developing intellectual, moral and social skills through the transmission of knowledge, allowing people to live in society and contribute to its progress. There are also keywords such as organization and management procedures which represent the administrative acts developed by national educational systems and educational institutions in order to choose the best strategies that allow the student to assimilate a greater amount of knowledge, in addition to ensuring optimal conditions in educational institutions and a trained teaching staff. All this in order to obtain a quality education. *Quality*, *higher education*, *students*, *training and teaching quality* are key words that shed light on the determining factors of educational quality, which are the usefulness of the information imparted, the effectiveness and efficiency determined by the pedagogical skills of the teaching staff. Finally, there are the words *management* and *learning* that determine all the actions that encompass educational management, which are operational decision making, educational culture and administrative actions which determine the quality of the pedagogical processes.

4.2 Distribution of scientific production by year of publication

Figure 2 shows how the scientific production is distributed according to the year of publication, taking into account the period from 2016 to 2021.

Figure 2. *Distribution of scientific production by year of publication.*



Source: Own elaboration (2022); based on data provided by Scopus.

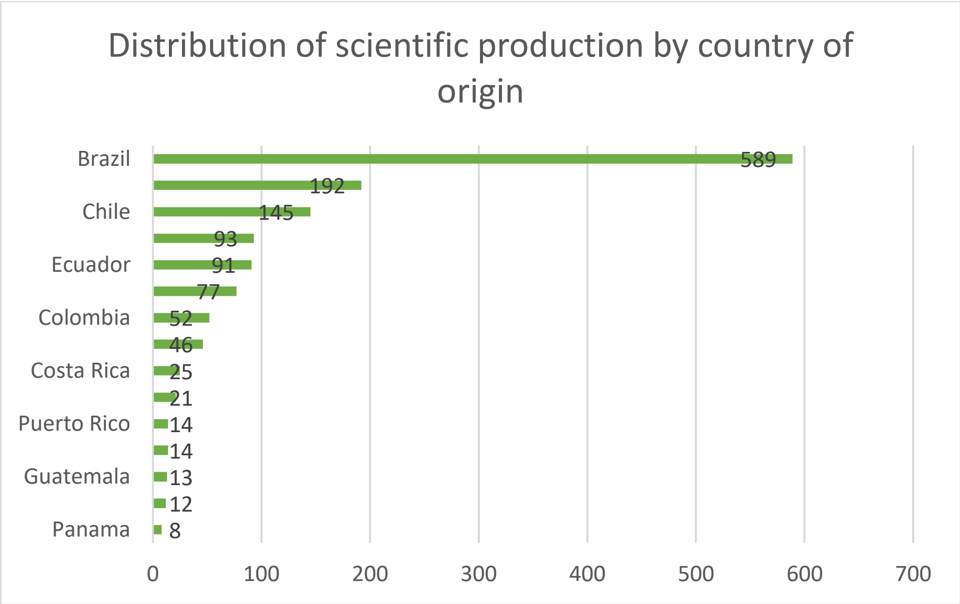
2020 is the year with the highest number of documents registered in Scopus with a total of 236 documents within which is "*An accreditation model that ensures the improvement of the quality of a study program. Experience at the university level*" (Collado & Garaycochea, 2020). This document, through a comparative analysis identifies 3 differences of educational accreditation models between Peru and accreditation processes of more mature countries in this subject. A difference was found in the evaluation of research, which is an essential Pillar in higher education; management systems, which determine the Educational Quality and the training of external evaluators, this being peers of the training programs. This research is done to determine the impact of the quality of higher education on the development of countries depending on the decision making of educational institutions.

In second place is 2021, which presents 231 documents related to the variables under study, within these publications is "*Governance and quality in higher education: A bibliometric description*" (Pedraja-Rejas et al., 2021). This article aims to identify trends in scientific production regarding management and quality in higher education, so a bibliometric analysis was conducted in web of Science between 2010 and 2020, where 3 main themes were identified which are, reforms to higher education, perceptions of quality in education of the actors involved and student participation. Therefore, it is concluded that educational quality is the result of the leadership of the directors, the active participation of students and the training of teachers. Therefore, the increase of publications in relation to quality in the framework of higher education is highlighted.

4.3 Distribution of scientific production by country of origin.

Figure 3 shows the distribution of scientific production according to the nationality of the authors.

Figure 3. *Distribution of scientific production by country of origin.*

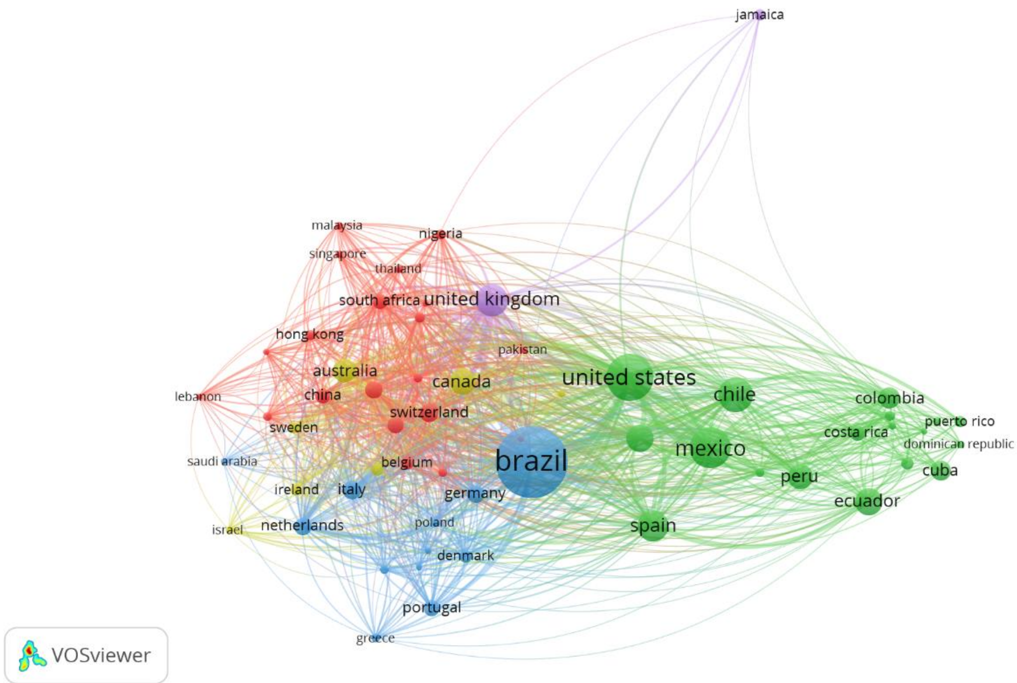


Source: Own elaboration (2022); based on data provided by Scopus.

Brazil is the Latin American country with the largest contribution to research related to the variables under study with 589 publications registered in Scopus. Among these publications is "*Education, research and training in smart grids at the Federal University of Brazil*". This document has as main objective to present the educational practices in the teaching of intelligent networks taking into account that the management of educational planning are essential to the teaching-learning process involving the aspects of teaching and research for the development of educational activity. The importance of intelligent networks in the development of our society is raised, so that implementing them in education would be providing students with the necessary skills for their future, thus increasing the quality of the education provided. It concludes with the analysis of the decisions taken by the educational situations in order to improve the curriculum in electrical engineering offering cutting-edge knowledge that allow the university to be accredited as a high-quality institution.

At this point, it should be noted that the production of scientific publications, when classified by country of origin, presents a special characteristic and that is the collaboration between authors with different affiliations to both public and private institutions, and these institutions can be from the same country or of different nationalities, so that the production of an article co-authored by different authors from different countries of origin allows each of the countries to add up as a unit in the overall publications. This is best explained in Figure 4, which shows the flow of collaborative work from different countries.

Figure 4. *Co-citations between countries.*



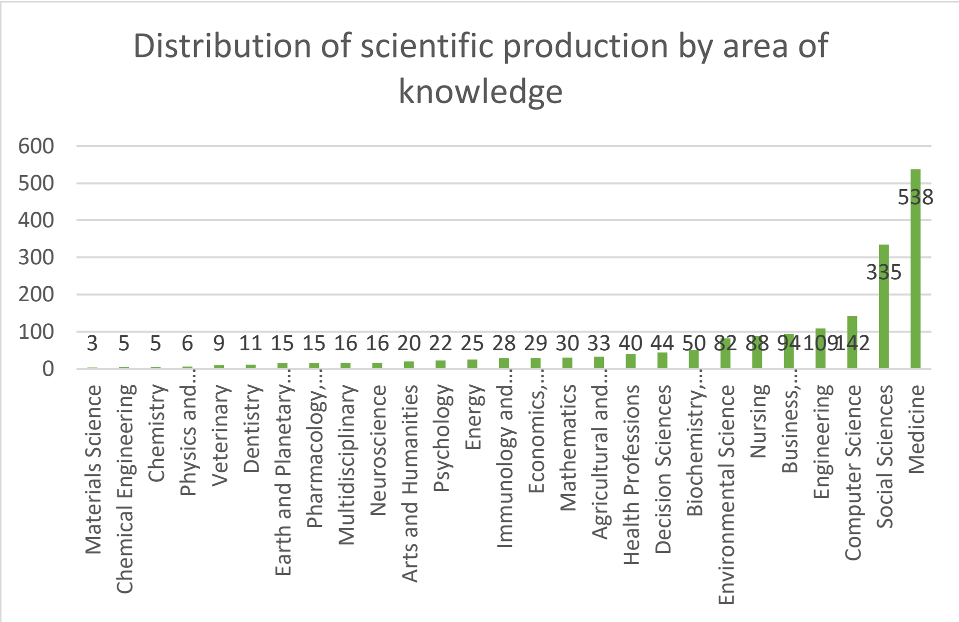
Source: Own elaboration (2022); based on data provided by Scopus.

As shown in Figure 4, Brazil is the country with the highest number of publications in collaboration with other countries, some of which do not belong to Latin America, such as the United States, Spain and Germany. In second place is Mexico with 192 publications in which it collaborates with authors mainly from Chile, Peru and the United States. Among these documents is "*Mechanism of articulation of universities with the State-regulator, markets and civil society to ensure the quality of higher education*" (Soto-Montoya, 2021). This document proposes a new mechanism for the articulation of universities with the state-regulator, markets and society to increase the level of quality of universities. It was determined that in a country where few public universities have accreditation, the regulatory state calls into question its conviction. Therefore, the model proposes to understand the management of universities and what factors contribute to the construction of institutional reputation, taking into account that this is influenced by the communication to society of the quality offered. Educational management plays an important role in the implementation of these models, since it determines the decisions that are made both internally and externally in higher education institutions, allowing these organizations to choose educational plans that go towards improving the methodologies implemented in the pedagogical processes.

4.4 Distribution of scientific production by area of knowledge

Figure 5 shows how the production of scientific publications is distributed according to the area of knowledge through which the different research methodologies are executed.

Figure 5. *Distribution of scientific production by area of knowledge.*



Source: Own elaboration (2022); based on data provided by Scopus.

Medicine is the area of knowledge with the highest number of publications, with 538 documents. In second place is the social sciences, which presents 98 documents related to the search or knowledge on the quality of education and the inference of its management. Among its publications is "*Adoption of organizational big data analysis in higher education mediated by knowledge management*" (Sekly & De la vega, 2021) (Medina Romero et al, 2021). This research is done in the framework of COVID 19, which was the situation that forced society to change most of its interactions, one of them education. So, in this study Big Data is presented as an opportunity to innovate by obtaining valuable knowledge, investigating the factors that influence its implementation and its relationship with performance and knowledge management taking into account that it is not a widely used strategy. This study was conducted through surveys to 265 members of universities where it was found that an adequate organizational data environment and external support are necessary to simply implement Big Data in higher education situations, so the study provides a guide for those involved in decision making to define strategies to implement Big Data.

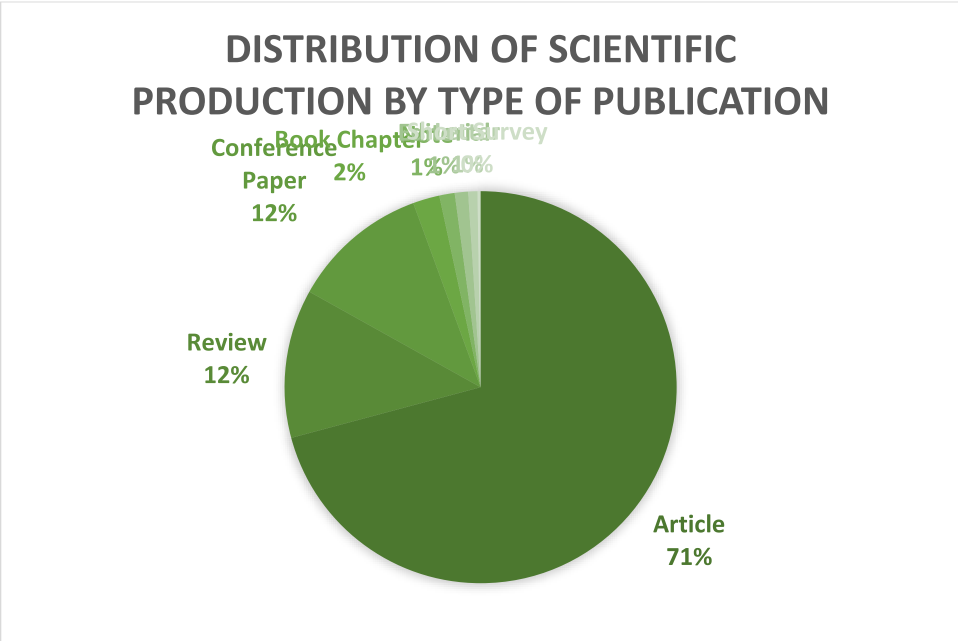
In third place is computer science, with 142 documents written following the guidelines of the topics related to this area. Within these documents is the title "*theoretical approach for the praxis of advanced management of the university system*" (Marcial, 2021). This research is developed in order to analyze the practice of advanced management. The Paper analyzes theoretical elements such as advanced educational management through Habermas' theories of communicative action and

Weber's bureaucratic theory, resulting in a theoretical approach to the praxis of advanced management in education. Through its theoretical approach, its impact on the quality levels of education both at school and university level is determined, since these processes take into account a large number of factors that make the decision-making process easier by getting clear all the implications in the learning processes.

4.5 Type of publication

Figure 6 shows how the bibliographic production is distributed according to the type of publication chosen by the authors.

Figure 6. *Type of publication.*



Source: Own elaboration (2022); based on data provided by Scopus.

As shown in Figure 6, within the different types of publications, 71% of the total number of documents identified through Phase 1 of the Methodological Design, correspond to Journal Articles, among which is the one entitled "*quality and global university rankings: a view from Latin America*" (Ortiz, Rivero, Bajo, & e, 2021). The centrality of knowledge for nations that are more developed has left great changes in education which has generated doubts about its quality. Therefore, the objective of this article is to analyze the different visions of quality that are held in universities as part of the global ranking as AR WU, T H EIO S in addition to analyzing the perceptions that have been had throughout history of what is quality of education and its management analyzing both origin, methodologies, indicators and weightings. It concludes with the need to design a ranking of Latin American universities that takes into account the factors of the countries of that region.

In second place, there are the reviews which represent 12% of the total of the documents identified in this study, within these publications is "*e-learning training at work operations and reviews in an instructional project"* (Kasier, silva, de pavia, & Servini, 2020). The main objective of this paper is the bibliometric and descriptive review of the scientific literature dealing with the instructions and training plans offered in virtual learning in work corporations to identify the methodologies used in these institutions. So, the documents registered in the database as Zotero between 2000 and 2010 are analyzed with a total of 260 publications identified. It was found that skills of this knowledge were necessary for the quality of education, such as virtual reality artificial intelligence and also use of management tools in order to obtain feedback. This review concludes with the need for more papers that aim to analyze the existing literature on this topic.

5. Conclusions

Thanks to the bibliometric analysis proposed in this research, it can be determined that Brazil is the Latin American country with the largest number of bibliographic records in Scopus database during the period between 2016 and 2021 with a total of 589 documents. The scientific production related to the study of Management in the quality of education has presented an important growth during the above mentioned period, going from 141 publications in 2016 to 231 units in 2021, that is, it was possible to double the creation of bibliographic records in a period of 5 years, which indicates the importance that quality management represents for the improvements in the educational system allowing students to obtain a greater amount of knowledge.

The quality of education is the capacity of educational situations to provide a complete learning to students, this quality is determined by the usefulness, efficiency and effectiveness of the information provided. Quality is related to factors such as infrastructure, teachers, and the provision of tools to students to ensure the use of this knowledge. Educational management is an important pillar in educational quality, since it is integrated by administrative processes such as decision making and educational culture, which defines the strategies, methodologies and the teaching staff that work in an institution, and therefore has a great influence on the level of education it provides. Quality management should be focused on implementing and reforming methodologies that allow students to assimilate knowledge depending on their particular needs, based on the premise that each student learns in a different way and it is the obligation of the institution to provide them with the corresponding tools to develop the necessary skills. All of the above allows to conclude highlighting the importance of knowing the theory or bibliographic resources that seek to awaken the interest of educational institutions to strengthen their management in order to ensure access to quality education to students implemented innovation that allow them to assimilate more knowledge. That is why it is necessary to highlight the need for studies such as the one presented in this document, which make a tour of those texts that address the aforementioned topic, in order to give the reader a broad view of the current situation of the literature on management in the quality of education.

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Argumentative Tactic of Rhetorical Fallacies in Political Discourse

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Abstract

The world of political rhetoric is a murky one due to the use of faulty logic and unsound arguments. That is, detecting fallacies can be one of the challenges that face researchers in a given discourse. In political discourse, the speaker and in his effort to persuade his audience should utilize strong arguments based on truthful appeals. However, a speaker might be a good persuader by utilizing false appeals which may make people fall for them easily. Fallacies are deceptive tactics that the arguer may employ to convince the listener by violating reasonableness rules. This study followed a textual analysis method and adopted the Pragma-dialectical approach (PDA) proposed by Van Eemeren, Grootendorst, and Henkemans (2002) to determine the rhetorical fallacies in ten political speeches of Prime Minister Nouri al-Maliki; (i) identify the violated rules in committing such fallacies; (ii) determine the argument scheme that constructed such fallacies. The study found that al-Maliki violated most of the critical discussion rules and committed various rhetorical fallacies within these rules. The study concluded that the Pragma-dialectical approach can be used to analyze political discourse if we exclude rule two (burden of proof rule) and nine (closure rule). However, two types of fallacies were found to be absent in the Pragma-dialectical approach, indicating its lack of inclusivity. Henceforth, it is recommended to include these two types of fallacies within the Pragma-dialectical approach to enhance its inclusiveness.

Keywords: Rhetoric; Fallacies; Argumentation; Political Discourse; PDA.

1. Introduction

Political discourse is any technique, written or spoken, that attempts to influence peoples' opinions or encourage their actions to support a policy or a program (Ngoa, 2011). It is based on creating new words and expressions and eliminating others to serve the speakers' purposes (Chilton, 2004). That is, political discourse focuses on presenting a point of view in such a way that can make people see the world or to see a particular issue from a particular point of view (Ngoa, 2011). Imani (2021) states that the primary goal of political discourse is to persuade people, this purpose cannot be accomplished unless the audience view the world according to politicians' desires. In fact, political discourse intends to impose

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certain beliefs and attitudes upon people, these beliefs and attitudes comprise politicians' underlying ideologies, and according to these ideologies, politicians construct their language by which they aim to persuade people and thereby exercise power and dominance over them (Van Dijk, 2006). This is why Chilton (2004) believes that political discourse requires the use of different linguistic forms to achieve political ends, among which is the use of rhetoric.

The relationship between rhetoric and politics is rooted in the Aristotelian rhetoric of deliberation, in which he proposes an interrelation between politics and the rhetorical genus deliberativum, i.e. a way of talking that enhances the good choices within the available possibilities (Yack, 2006). The role of rhetoric is to devise an argument that can be persuasive to make the audience accept the speaker's viewpoint that has doubts about (Žagar, 2017). Accordingly, the speaker of any speech should employ a strong argument that is based on truthful appeals (Mshvenieradze, 2013). Such an argument is employed to dissolve the difference of thoughts so as to accept the standpoint by appealing to the other party's reasonableness, thereby persuading the listeners with the speaker's point of view (AL-Rikabi, 2022). However, a speaker can also be persuasive by utilizing false appeals. In that, people might be deceived with fallacies. Walton (2007) states that "fallacies are forms of argument that represent weak inferences, or even deceptive argumentation tactics used to unfairly get the best of a speech partner, they are not just augments that are logically incorrect, but are logically incorrect arguments that appear to be correct" (p. 21). The reasoning in the argument must be logically valid or capable of being validated by making explicit one or more unexpressed premise (Van Eemeren et al., 2002). Therefore, detecting a fallacious argument requires further efforts since fallacies do not exclusively rely on the verbal form of the argument, rather, it depends on the context and the concerned situation of that argument. To achieve that purpose, the present study adopts a recent approach to fallacies from a pragma-dialectical perspective as proposed by Van Eemeren et al. (2002) to investigate the rhetorical fallacies in Prime Minister Nouri al-Maliki's political speeches**,** deconstruct the structure of fallacies, and identify the violated rules in committing such fallacies.

Though some previous studies on fallacies adopted the Pragma-dialectical approach, they were limited to present conceptual studies rather than case studies. Such studies are conducted to understand and develop or extend a theoretical framework for future research. Moreover, most of these studies investigate one or two types of fallacies in each study. For example, Walton (2014) and Shim (2011) analyzed "ad baculum' fallacy while Budzynska and Witek (2014) examined the "ad hominem and ad balucum". Fallacies are widely used in political discourse where politicians construct their language with false appeals (Warman & Hamzah, 2019). Without paying attention to all of these types, the field of rhetorical fallacies will lack adequate understanding. Therefore, it is important to fill this gap in previous studies by conducting a comprehensive investigation on fallacies from a real-world setting to better understand the relevant strategies used to communicate various types of fallacies.

2. Rhetorical Fallacies

The word fallacy is derived from two Latin words "fallax", which means deceptive, and "fallere", which means to deceive (Aqeel, Shah, & Bilal, 2020). Rhetorical fallacies are false notions that do not allow for the open, two-way exchange of thoughts whereupon significant discussions depend on, rather, they mystify the audience's mind with different interests as opposed to utilizing sound thinking. Moreover, Hahn (2020) argues that fallacies are traps for unwary reasoners, and they are arguments that seem to be strong, while from closer scrutiny, they are not. For LaBossiere (1995), fallacies are appeals that make a breach or weakness in reasoning. They are bad arguments that follow commonly used patterns, and many people think that they are good arguments. Still, they are incorrect, misleading arguments and use various appeals instead of using sound reasoning. This is why Almossawi (2014) states that a fallacy is an error in thinking or reasoning, it is not an error in fact or belief, it involves a thought process. In that, "fallacy represents a misuse of argument which resulted in confusing or incorrect arguments" (Santoso, 2017, p. 66). A fallacy is an argument, which in turn is a series of statements; some of these statements are premises: reasons, claims, and from these premises, a conclusion is derived. Whenever we want to evaluate an argument, we should examine both the premises and conclusions. The premises, i.e., the evidence, should be thorough and accurate; the conclusion should clearly and incontrovertibly derive from that evidence (Walton, 2007). That is, the word fallacy usually applies to conclusions that appear sound, and it is the criterion to judge whether the argument is false or not.

Fallacies are arguments and should be addressed from the argumentation theory's perspective. Within the argumentation theory, the argument is defined as the "verbal and social activity of reason [that] aimed at increasing (or decreasing) the acceptability of a controversial standpoint" (Boukala, 2018, p. 92). It can be understood from this definition that argumentation is a verbal activity since people use words and sentences to communicate their views and claims. Further, this definition stresses that argumentation is an activity of reason because it requires people to propose their claims and defend them based on hard and logical evidence or reasoning. Any argument has deductive or inductive goals (Zalaghi & Khazaei, 2016). The deductive purpose resides in the literal meaning of the premises and conclusion. Such a meaning is reached easily and explicitly from the information of the premises and conclusions without much effort to infer any further relations. The inductive goal of an argument, on the other hand, resides in underlining the real purpose and meaning of the premises and the conclusion. Such a meaning requires a full understanding of the real purpose of such an argument in a given context (Walton, 2007).

2.1 Fallacies from Pragma-dialectical Perspective

In any discourse, the arguers strive to resolve the difference of opinion, which are the ideal goals of argumentation (Mohammed, 2016). During an argument, the reasonableness of evidence is used either to support or violate the rules of an effective argument (Van Eemeren, 2013). There are two main approaches to understand argumentation, namely, the dialectical and rhetorical approach (Van Eemeren & Grootendorst, 2004). Although seemingly diverse, these two approaches are complementary (Krabbe, 2002; Leff, 2002). Dialectic refers to the systematic, pragmatic and logical method for dealing with critical discussions during verbal communication. This approach maintains that secure belief and reasonableness of evidence provided by the arguer leads to valid arguments and resolution of difference (Van Eemeren & Grootendorst, 2004). Rhetoric, on the other hand, refers to the critical analysis of argumentation from the perspective of the speaker's ability to convince or persuade an audience. To bridge the gap between the two approaches and the need to consider both reasonableness and persuasion in analyzing argumentative discourse, Van Eemeren et al. (2002) proposed a new approach under the term pragma-dialectical approach (PDA).

Based on this approach , Van Eemeren et al. (2002) proposed ten rules for a critical discussion of an effective argument, if these rules are followed and considered during an argument, the argument can be smooth, logical, and effective. However, if any of these rules have been violated, a fallacious action is realized. That is, fallacies are the violation of reasonable rules (Van Eemeren & Grootendorst, 2004; Walton, 1995). The pragma-dialectical approach of argument rules is to discriminate fallacious from reasoning argumentative schemes. In that, the determination and interpretation of a fallacious action are dependent to a great extent on contextual factors and the environment in which the fallacy takes place (Hansen, 2002). The addition of the linguistic constituent to the interpretation of the fallacious utterances contributes to the understanding of the sources, types, and strategies of fallacies (Shim, 2011). However, the ten rules of critical discussion of an effective argument along with the types of fallacies proposed by Van Eemeren et al. (2002) are as follows:

2.1.1 Rule 1: The Freedom Rule

According to Van Eemeren et al. (2002), the speaker should not prevent his opponents from advancing standpoints or casting doubt on standpoint. That is, in any discussion, parties need to give each other unlimited freedom to introduce or criticize a standpoint or discuss about. This rule can be violated by using the following fallacies:

2.1.1.1 Fallacy of sacrosanct

This fallacy is committed when the speaker forbids the calling into question of a standpoint by declaring it sacrosanct, (e.g., I'm going to buy a new car. We can discuss its color and type or anything you want, but not whether it will be bought or not).

2.1.1.2 Declaring standpoint taboos

It is committed when the speaker prohibits the expression of a standpoint by declaring it taboo, (e.g., I do not think that it is good to say that your grandfather was a thief. One must not speak badly about the dead).

2.1.1.3 Fallacy of the stick

Where the arguer threats others by violence or else types of sanctions either directly or indirectly, (e.g., directly as “If you try to get the city council to approve that, I will send my thugs after you”, or indirectly as “Of course you must make your own decision, but remember that we're one of your top clients”).

2.1.1.4 Appeal to pity

It is done by making pressure on the hearer by playing on his emotions, (e.g., How can you have given me a failing mark for my thesis?

2.1.1.5 Abusive variant (direct personal attack)

It is committed when the arguer describes the other party as stupid, evil, unreliable, and so on, (e.g., It made me so drowsy to read his response in last week’s edition that I will not even take the trouble to reply to his musings. The man is weak in the head, and blessed are the innocent of spirit).

2.1.1.6 Circumstantial variant (indirect personal attack)

In which the arguer is casting suspicion on the other party's motives for instance by making him as one who biased to one side rather than another, (e.g., She believes that men are the cause of the disadvantaged position of women. I cannot avoid the impression that French at some time in the past have washed the dirty socks of men.

2.1.1.7 Tu quoque variant (you also variant)

Pointing out a contradiction in the other arguer's words or deeds such as that he has a contradiction in his opinion in the past and present, (e.g., She discourages people from participating in the so-called AFP test, she knows the consequences of the AFP test. So why did she have such an AFP test done herself? Because in fact she preferred not to have a mongoloid baby).

2.1.2 Rule 2: The Burden of Proof Rule

The burden of proof rule poses that an arguer must defend his or her argument or standpoint against any critical attack. However, this rule can be violated in two main ways. The first way is achieved by shifting the burden of proof to the person who criticizes the standpoint. The second way is to evade the burden of proof completely, which is achieved through several rhetorical strategies.

2.1.2.1 Shifting the burden of proof

In which the arguer is escaping from the obligation to defend a standpoint by turning the burden of proof to the person who is criticizing the standpoint, (e.g., You first prove that it is not so” prove that it is wrong).

2.1.2.2 Presenting the standpoint as evidence

Where the arguer may introduce the standpoint as one that needs no proof at all, (e.g., It is obvious that…, Nobody in their right mind would deny that).

2.1.2.3 Introducing personal guarantee

In which the arguer utters expressions that make the antagonist feel depressed and cannot voice his doubts, (e.g., I can assure you that…, There is no doubt in my mind that…, I am absolutely convinced that…).

2.1.2.4 Shaping the standpoint

A manner that makes the standpoint safe from any criticism because it cannot be evaluated or tested, (e.g., Men are by nature hunters).

2.1.3 Rule 3: The Standpoint Rule

According to Van Eemeren et al. (2002), the defence and the attack in the dispute must be related to the actual standpoint. That is, the speaker should attack or defend the issue under conflict and not go beyond that standpoint. Accordingly, this rule can be violated when the speaker criticizes an unrelated standpoint, and the opponents in his turn will also defend a different standpoint. As a result, the original standpoint will be distorted. It is violated by committing the following fallacies:

2.1.3.1 Misrepresenting the genuine standpoint by exaggerating

When the speaker replaces the quantifier “all” instead of “Some, few”, (e.g., All people against what you said).

2.1.3.2 Misrepresenting the genuine standpoint (oversimplifying)

Involves leaving out the restrictions and nuances, when one accuses someone of having written something, whereas he did not mean that, (e.g., The line between legitimate and charlatan is very fuzzy).

2.1.3.3 Emphatically putting forward the opposite standpoint

In which the speaker implicitly refers that the antagonist thinks otherwise, (e.g., I personally believe that the defence of our democracy is of great importance).

2.1.3.4 Referring to a group which the antagonist belongs to

When the arguer refers to the antagonist's group and connects this group with a fictitious standpoint, (e.g., He says that he thinks this hospital is useful, but as a doctor he naturally sees it as unhealthy).

2.1.3.5 Using fictitious expressions

When the arguer uses expressions to hold the standpoint, whereas there are no surveys prove that (e.g., Nearly everyone thinks that…, educators are of the opinion that…, everyone has been saying lately that…).

2.1.4 Rule 4: The Relevance Rule

Within relevance rule, the defence and attack in the discussion can only occur through argument, and this argument must be relevant to the standpoint (Van Eemeren et al., 2002). They add the discussants should not use means other than argumentation such as rhetorical devices, including the classical appeals of persuasion, such as appealing to the security, loyalty feelings, fear, shame, and greed. This rule might be violated as follows:

2.1.4.1 The fallacy of irrelevant argumentation

The arguer defends standpoint which is not the one at issue that fired the difference of opinion, (e.g., To defend democracy one should be against population growth).

2.1.4.2 A pathetic fallacy (pathos)

When the speaker appeals either positively to the security or loyalty feelings, or negatively by appealing to the emotions of fear, shame, greed, (e.g., He is playing unfairly on the sentiments of the members of the jury because it is just as terrible a thing when the victims are men, whether they are ordinary men, police agents, or soldiers).

2.1.4.3 An ethical fallacy of abuse authority (ethos)

In which the arguer uses ethos depending on his expertise or good qualities to make the audiences have faith in his credibility and integrity, (e.g., I know that……, I personally assure that).

2.1.5 Rule 5: The Unexpressed Premise

The speaker should not falsely attribute unexpressed premises to his opponents, nor deny responsibility for his unexpressed premises, if he does so, then he violated the unexpressed premise rule (Van Eemeren et al., 2002). This rule proposes that everyday conversations contain several unexpressed premises, which might communicate different meanings indirectly. That is, in a critical discussion, the speaker's argument may consist of parts that remain implicit in the discourse. Following are the fallacies that can be committed to violating this rule:

2.1.5.1 Magnifying what has been left unexpressed

This fallacy is committed when the speaker exaggerates the premise's scope and adds other unexpressed premises that go further from what is warranted, (e.g., This only means that we have to give up, You mean that we should do what the terrorists want).

2.1.5.2 Fallacy of denying an unexpressed premise

It is committed when the arguer refuses to handle responsibility for what it is implied, (e.g., I never said that).

2.1.6 Rule 6: The Starting Point Rule

The speaker should not falsely present a premise as an accepted starting point, nor deny a premise representing an accepted starting point (Van Eemeren et al., 2002). If the speaker does not follow this rule, it means that he violated the starting point rule. They add when the speaker pretends that a specific premise is a real starting point while it is not. It is a kind of trick proposed by him to introduce such a controversial proposition to prevent the starting point at issue from being attacked. This rule is violated when the speaker committed the following fallacies:

2.1.6.1 Unfair use of presupposition

When the speaker introduces a statement as a presupposition of another statement, (e.g., I cannot understand why John does not do something about that gambling addiction).

2.1.6.2 The fallacy of many questions

In which the speaker introduces a question that implied more than one question, (e.g., Who have you quarreled with today? Which implies two other questions, have you quarreled with anyone today? and who have you quarreled with?).

2.1.6.3 Fallacy of circular reasoning/ Begging the question

When the arguer uses an argument as synonymous with the standpoint at issue to defend it, (Racial discrimination is a punishable offense because it is against the law).

2.1.7 Rule 7: The Argument Scheme Rule

This rule proposes that the speaker should not view a standpoint as conclusively defended if it is not presented through an appropriate argumentation scheme (Van Eemeren et al., 2002). So, this rule can be violated when the speaker uses an improper argument scheme or misapplies it by using different ploys:

2.1.7.1 Populist fallacy

When the speaker is inappropriately applying the argument from popular opinion, i.e. introduce some number of people based on asymptomatic relation, (e.g., Hundreds of thousands of cheering readers, viewers, or listeners are no proof at all of the correctness of an idea).

2.1.7.2 Fallacy of confusing facts with value judgments

In which one uses a causal argument scheme incorrectly, it is the argument from consequences, (e.g., It cannot be raining, because that would mean we would have to cancel our picnic).

2.1.7.3 Inappropriately appealed to causal relation using post hoc ergo propter hoc

In which the cause and effect relation based on the fact that the one thing preceded the other “after this, therefore, because of this”, (e.g., I like the Milan team. I like the way they play, their courage, their drive to win. Since I came we have gone from 40 to 71 thousand season ticket holders. There must be a reason for this).

2.1.7.4 Inappropriately appealed to causal relation using a slippery slope

When the speaker wrongly judges that by making certain actions, things will be turning from bad to worse, (e.g., If you get a B in high school, you will not get into the college of your choice, and therefore will never have a meaningful career).

2.1.7.5 Fallacy of abuse authority

In which the speaker introduces a proposition as an accepted one based on the opinion of persons or written sources, (e.g., My high school teacher said it, so it must be true).

2.1.7.6 Fallacy of hasty generalization

In which the fallacy is generalized based on the evidence of very few observations, (e.g., After having spent our 2001 vacation in Maldives, we went there again, which shows that it is a great place for tourists).

2.1.7.7 Fallacy of false analogy

Where the speaker uses two or more compared things are not actually comparable, (e.g., No one objects to a physician looking in medical books. Why, shouldn't students in exam be permitted to use their textbook?).

2.1.8 Rule 8: The Validity Rule

The validity rule proposes that the reasoning in the argument must be logically valid or at least capable of being validated by stating an explicit premise or more unexpressed premises (Van Eemeren et al., 2002). This rule is violated by committing the following fallacies:

2.1.8.1 Faulty reasoning

In which the reasoning is invalid despite making everything explicit after being unexpressed, (e.g., If you eat spoiled fish, you get sick, Ann is sick; therefore, Ann has eaten spoiled fish).

2.1.8.2 Fallacy of division/composition

In which the speaker incorrectly attributes the property of the whole to the component parts, (e.g., This chair is white. Therefore, the legs of this chair are white).

2.1.9 Rule 9: The Closure Rule

Includes that both discussants, the protagonist, and the antagonist, must agree on the discussion’s outcome. Otherwise, the difference of opinion will stick at the same point. The arguer should retract or give up a standpoint once its defence has failed or the arguer failed to convince the audience. This rule is violated in two ways:

2.1.9.1 Refusing to retract a standpoint that has not been defended successfully

This fallacy is committed if the protagonist does not defend his standpoint and convince the antagonist, then he must give up, (e.g., Well, if that is the case, then I cannot think of any more objections. But I still do not agree with it).

2.1.9.2 Concluding that a standpoint is true because it has been defended successfully

By his turn, the antagonist must turn back his criticism of that standpoint since he has failed to criticize the opponent's view, (e.g., Mother: You must never hit children, because then they lose trust in society and ten years later they will be hitting everybody. Father: It has not in any way been proved that hitting children leads to violence later. So a slap once in a while for a good reason cannot do any harm).

2.1.10 Rule 10: The Usage Rule

The last rule is the usage rule, in which the speaker should not utilize formulations that are insufficiently clear or confusingly ambiguous; likewise, he should interpret the opponent's formulations carefully and accurately (Van Eemeren et al., 2002). That is, to present his standpoint in such a way that reduces the opportunities of misunderstanding. Accordingly, this rule is violated when the speaker uses unclear or ambiguous language to turn the argument in his favor.

2.1.10.1 The fallacy of unclarity

This fallacy includes the structural unclarity at the textual level, resulting from the illogical order, lack of coherence, obscure structure...etc, and the unclarity at the sentence level (e.g., John is kleptomaniac). Therefore, the following questions might be asked from the hearer for clarification: (i) Are you warning me or just informing me? Implicitness, (ii) Charles? Charles who? Indefiniteness, (iii) A kleptomaniac? What is that? Unfamiliarity, (iv) What do you mean, he is a kleptomaniac? Vagueness, What do you mean, he's a kleptomaniac? Do you mean once upon a time he stole something, or do you mean he makes a habit of stealing things?

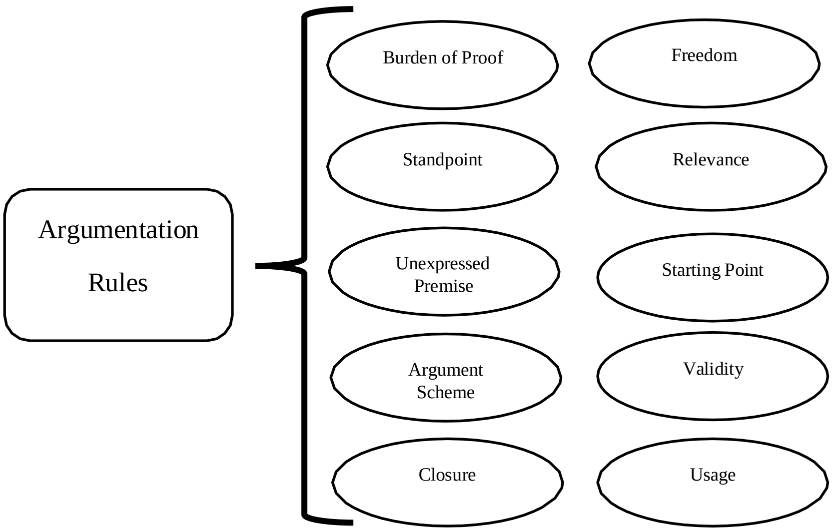
2.1.10.2 The fallacy of ambiguity

This fallacy is related to the situations in which the words and phrases have more than one meaning, (That is Anna's portrait). This example might be interpreted ambiguously as in (i) The portrait was painted by Anna, (ii) The portrait is owned by Anna, (iii) Anna is the subject of the portrait. The other example might indicate an ambiguous reference "Sara gave Clara a pen; it was her last day here". The reference here is ambiguous since it is difficult to decide to which girl the pronoun "her" is referred to.

3. Method

The violation of critical discussion rules can be achieved deliberately by the speaker through the employment of certain rhetorical fallacies. If these rules are met and executed, a reasonable talk is realized. However, if these rules are violated, a fallacy is detected (Van Eemeren et al., 2002). That is, any violation of each of these rules would make the argument lose its smoothness, logic, effectiveness, and reasoning, thus a fallacious argument is realized. According to Van Eemeren et al's. (2002) Pragma-dialectical approach (PDA), any argument is evaluated at two levels; the micro-level, where the argument is evaluated according to its premises and conclusion, and the macro-level, where the argument is evaluated according to the context of that argument (Walton, 1995). In this case, the unexpressed premise would be more informative for interpreting the argument under investigation. Such an unexpressed premise can be inferred from the context, specific and general background knowledge, and common sense about a given argument. Figure 1 illustrates the ten rules of critical discussion proposed by Van Eemeren et al. (2002).

Figure 1: *Rules of Reasonable Argumentation (Van Eemeren et al., 2002)*



3.1 Data collection and Analysis

This study used Van Eemeren et al's. (2002) Pragma-dialectical approach to analyze the rhetorical fallacies in ten political speeches of the former Prime Minister of Iraq, Nouri al-Maliki. For data analysis, the study used a textual analysis method to deconstruct the content and interpret the meaning of fallacies. Lockyer (2008) states that textual analysis has two types, content analysis, and structure analysis. While the former focuses on the ideas presented in a text, the latter focuses on the organization or structure of a discourse. For data collection, the speeches were purposely collected in the form of written texts in Arabic language. Two websites from which the data have been collected, namely, the official websites of Prime Minister Nouri al-Malik (http://www.pmo.iq/press/, and the official website of the Iraqi cabinet, http://www.cabinet.iq/ArticleShow.aspx). To provide the readers with a better understanding, the speeches were translated into English by an accredited translator who has a membership in the Iraqi Translators Association. Moreover, to establish triangulation, the translations were double-checked by two professors who are native Arabic speakers with Ph.D. in English language.

4. Results

It is essential to describe the context where the selected speeches took place (see table 1, appendix A). The speeches were delivered at different points of time, which lasted from April 2013 to May 2014, where the demonstrations against al-Maliki's sectarian policies took place in all Sunni cities. In fact, the demonstrations started after al-Maliki spread the army inside these cities, which affected the freedom of the citizen. Al-Maliki also accused several Sunni leaders and issued judicial orders to arrest them, which arouse the feeling of anger against his policies (Katzman, 2014). At that time, the role of al-Qaeda and ISIS were very effective in Iraq, where they took control over several cities including; Ramadi, Mosul, and Salah Uddin. These events were accompanied by the preparations for the general parliamentary election on 30 April 2014.

Due to the length of the units and the big size of the data as well as the variation in the number of fallacies within each rule, the present study presents one fallacy from each rule to illustrate how the process of analysis has been implemented to all fallacies. For more details, table 2 in appendix B illustrates the violated rules and the entire committed fallacies within each rule in ten political speeches of Prime Minister Nouri al-Maliki. It should be mentioned that "P" refers to a premise and "C" refers to a conclusion.

Rule One: Freedom Rule

1. Declaring Standpoint Taboos / Speech-11

I think that the smart and keen Iraqi citizen can improve the choice according to his experience, and there is no excuse for an apologized person if he makes a mistake and chooses who counterfeit or tamper or exaggerate or buy the votes or who sell their votes, there is no excuse for them in front of Allah and history and in front of society.	واعتقد اصبح بامكان المواطن العراقي الذكي والحريص ان يحسن الاختيار على ضوء التجربة ولاعذر لمعتذر اذا اخطأ الان وذهب باتجاه اختيار الذين يزيفون اويزورون اويبالغون او يشترون الاصوات او الذين يبيعون اصواتهم، لاعذر لهم امام الله وامام التاريخ وامام المجتمع.

Argument Scheme

P1. I think that the smart and keen Iraqi citizen can improve the choice according to his experience	واعتقد اصبح بامكان المواطن العراقي الذكي والحريص ان يحسن الاختيار على ضوء التجربة
P2. There is no excuse for an apologized person if he makes a mistake and chooses who counterfeit or tamper or exaggerate or buy the votes or who sell their votes	ولاعذر لمعتذر اذا اخطأ الان وذهب باتجاه اختيار الذين يزيفون اويزورون اويبالغون او يشترون الاصوات او الذين يبيعون اصواتهم
P3. There is no excuse for them in front of Allah and history and in front of society.	لاعذر لهم امام الله وامام التاريخ وامام المجتمع
C. It is forbidden to elect those who counterfeit or tamper or buy the votes.	حرام انتخاب الذين يزيفون او يزورون او يشترون الاصوات.

In the above example, al-Maliki addresses Iraqi citizens to be precise in their choices. If we don’t know anything about the context of these utterances, we would let it go and assume that the unexpressed premise would be something like ‘be precise in electing other candidates’. However, a closer look at the context of speech 11 (see table1, appendix A), and the common knowledge about Islamic instructions would be more informative to come up with a more specific formulation of the unexpressed premise ‘electing those who counterfeit or tamper means committing something forbidden’, indicating that al-Maliki attempts to restrict people's freedom by directing them not to elect other candidates, otherwise, they will not be excused in front of Allah. In that, al-Maliki committed a fallacy of declaring standpoint taboos. This is expressed obviously in the conclusion of this fallacy, where he forbids citizens to elect other candidates who fake their votes or commit fraud in the votes. According to Van Eemeren et al. (2002), when the speaker prohibits the action and expression of a standpoint by declaring it as something forbidden, he commits a fallacy of declaring standpoint taboos. In fact, this was an adopted strategy by al-Maliki to overthrow his opponents. Ali (2014) points out that whenever al-Maliki wants to remove an opponent, he distorts this opponent’s reputation by different means, including accusing him of various indictments or even putting his opponents in prison. Therefore, al-Maliki attempts to disrepute other candidates to direct the public not to elect them.

Rule Three: Standpoint Rule
2. Emphatically Putting Forward the Opposite Standpoint / Speech-11

This requires that whoever comes supposed to be a defender of security, a defender of the security institutions, a defender of the army, a defender of the service process, a defender of the position of Iraq and the strength of the Iraqi state, not someone who discourages those who confront terrorism.	وهذا يقتضي ان من ياتي من المفروض ان يكون مدافعا عن الامن، مدافعا عن الاجهزة الامنية، مدافعا عن الجيش، مدافعا عن العملية الخدماتية، مدافعا عن موقع العراق وقوة الدولة العراقية لا ان ياتي من يثبط عزائم الذين يتصدون للارهاب.

Argument Scheme

P1. This requires that whoever comes supposed to be a defender of security, a defender of the security institutions, a defender of the army	وهذا يقتضي ان من ياتي من المفروض ان يكون مدافعا عن الامن، مدافعا عن الاجهزة الامنية، مدافعا عن الجيش
P2. a defender of the service process, a defender of the position of Iraq and the strength of the Iraqi state, not someone who discourages those who confront terrorism	مدافعا عن العملية الخدماتية، مدافعا عن موقع العراق وقوة الدولة العراقية لا ان ياتي من يثبط عزائم الذين يتصدون للارهاب.
C. The others are not defenders of these issues, and they discourage who confront terrorism	الآخرون ليسوا مدافعين عن هذه القضايا ويثبطون عزيمة من يواجهون الإرهاب

Emphatically putting forward the opposite standpoint fallacy is committed when the speaker implicitly or explicitly refers that the antagonist thinks otherwise, namely, oppositely (Van Eemeren et al., 2002). That is, putting forward the opposite proposition and relating it to the opponents. This can be seen in the above example, where al-Maliki addresses the Iraqi citizens and advises them to elect the one who defends Iraq and its security forces and provides services for them, which indirectly refers to himself. The context of speech 11 (see table 1, appendix A) indicates that this speech was delivered before one week of the parliamentary election in 2014 as one of al-Maliki's propaganda, where the competition between the candidates reached its climax. Consequently, we can infer the following unexpressed premise ‘opponents are not defenders of security, and they discourage those who confront terrorism’. That is, he implicitly indicated that others (his opponents) think oppositely, will not defend Iraq, and discourage any efforts to confront terrorism. As a result, al-Maliki breached rule three and committed the fallacy of emphatically putting forward the opposite standpoint.

Rule Four: Relevance Rule
3. A Pathetic Fallacy (pathos) / Speech-2

The riskiness of the sectarian proposal moves quicklyto partition and promote the sectarian voice in the squares and mosques as in Iraq and else. It promotes the disputes and put obstacles in the way of the rationaland wise people, which drive things towards division and shredding, and it is not the last thing, it is killing and fighting outside the control.	ومن مخاطر الطرح الطائفي أنه ينتقل بسرعة إلى التقسيم ويرتفع الصوت الطائفي في الساحات والمساجد كما في العراق وغيره ويؤجج الخلافات ويضع العراقيل في طريق العقلاء والحكماء لتتدحرج الأمور نحو التقسيم والتمزيق، وهي ليست اخر المطاف، أنه قتل وقتال خارج أطر السيطرة.

Argument Scheme

P1. The riskiness of the sectarian proposal moves quickly to partition and promote the sectarian voice in the squares and mosques as in Iraq and else	ومن مخاطر الطرح الطائفي أنه ينتقل بسرعة إلى التقسيم ويرتفع الصوت الطائفي في الساحات والمساجد كما في العراق وغيره
P2. It promotes the disputes and put obstacles in the way of the rational and wise people, which drive things towards division and shredding	ويؤجج الخلافات ويضع العراقيل في طريق العقلاء والحكماء لتتدحرج الأمور نحو التقسيم والتمزيق
C. It is not the last thing, it is killing and fighting outside the control.	وهي ليست اخر المطاف، أنه قتل وقتال خارج أطر السيطرة. .

When the speaker manipulates the emotions of the audiences he commits a pathetic fallacy, which can be applied in two ways; either positively by appealing to the loyalty feelings and security, or negatively by appealing to the negative emotions of greed, shame, and fear (Van Eemeren et al., 2002). Al-Maliki appeals to both positive and negative emotions in the above example. That is, on the one hand, he appeals to loyalty feelings and security by claiming that the sectarian proposal leads to the division and shredding of the Iraqi unity. On the other hands, he appeals to the negative emotion of fear by claiming that the sectarian proposal leads to uncontrolled killing and fighting. Appealing to peoples' feeling rather than using an argument with valid proof caused him to breach rule four, the relevance rule, and committed a pathetic fallacy. A closer look at the context of speech 2 (see table 1, appendix A) clarifies the situation and leads us to infer the following unexpressed premise according to al-Maliki's point of view 'the demonstrators seek for sectarian dispute, and any sectarian dispute drives things to kill and fight outside the control'. That is, in his effort to end the demonstrations, al-Maliki accused the demonstrators of being sectarian and even terrorist merely to terrify the public and make them support his future decisions against the demonstrators.

Rule Five: Unexpressed Premise Rule

***4. Magnifying what has been Left Unexpressed / Speech*-10**

Their concern is to make the sectarian, takfir, and authoritarian thought win, and to get who support this thought and this behavior when they commit this deed.	همّهم ان ينتصر الفكر التكفيري الطائفي، وفكر التسلط الذي يؤمنون به ويحصلون على من يدعم هذا الفكر و هذا السلوك، حينما اقدموا على هذه العملية.

Argument Scheme

P1 Their concern is to make the sectarian, takfir, and authoritarian thought win.	همّهم ان ينتصر الفكر التكفيري الطائفي، وفكر التسلط الذي يؤمنون به
P2. To get who support this thought and this behavior when they commit this deed	ويحصلون على من يدعم هذا الفكر وهذا السلوك، حينما اقدموا على هذه العملية
C. There are who support the sectarian, takfir, and authoritarian thought within the political process	هناك من يدعم الفكر الطائفي والتكفيري والسلطوي في العملية السياسية

The above example illustrates the process of committing the fallacy of magnifying what has been left unexpressed, in which al-Maliki exaggerated what ISIS did. He attributed it to his opponents, whom he accused as a remnant of al-Ba'ath regime, i.e. he claimed that they are looking for the victory of the sectarian and takfir thought. The context of speech 10 (see table 1, appendix A) confirms the following unexpressed premise 'some who are in the political process (Sunni politicians) support the thoughts of al-Qaeda and ISIS', pointing out that al-Maliki attempts to make a connection between ISIS and the preceding regime of al-Ba'ath party. For that reason, he committed the fallacy of magnifying what has been left unexpressed and breached rule five, unexpressed premise rule. Van Eemeren et al. (2002) state that this fallacy is being committed when the speaker manipulates the unexpressed premises and misrepresents them by adding other unexpressed premises which go further from what is actually happened or said.

Rule Six: Starting Point Rule

5. Unfair Use of Presupposition / Speech-2

I wonder where is the role of Islamic scholars and thinkers and Islamic organizations in spreading peace, where we daily hear fatwas issued by those who are belonged to this noble religion calling for killing, burn, takfir, and bloodshed.

وإني أتساءل أين دور العلماء والمفكرين الإسلاميين والحركات الإسلامية في إفشاء السلام ، ونحن نسمع يومياً فتاوى يصدرها المحسوبون على هذا الدين الحنيف ، تدعو للقتل والحرق والتكفير وهدر الدماء.

Argument Scheme

P1. I wonder where is the role of Islamic scholars and thinkers and Islamic organizations in spreading peace,

وإني أتساءل أين دور العلماء والمفكرين الإسلاميين والحركات الإسلامية في إفشاء السلام

P2. Where we daily hear fatwas issued by those who are belonged to this noble religion calling for killing, burn, takfir, and bloodshed.

ونحن نسمع يومياً فتاوى يصدرها المحسوبون على هذا الدين الحنيف ، تدعو للقتل والحرق والتكفير وهدر الدماء.

C. The Scholars, thinkers and Islamic organizations are the ones who issue these fatwas

العلماء والمفكرين والمنظمات الاسلامية هم من يصدر هذه الفتاوى

When the speaker introduces a statement as a presupposition of another statement without proof, he falsely asserts that the opponent commits such a presupposition to claim that it is a factual reality, the speaker in such a situation is said to have committed the fallacy of unfair use of presupposition (Van Eemeren et al., 2002). In the above example, al-Maliki unfairly presupposed that the scholars and thinkers who issued the fatwas of takfir. By questioning their role in issuing fatwas of takfir, he falsely claimed that they are involved in that issue. A closer look at the context of speech 2 (see table 1, appendix A) sustains to infer the following unexpressed premise 'since scholars do not prevent the demonstrations; therefore, they spiritually support them'. That is, the religious scholars of the Sunni cities look for the sectarian disorder and they are responsible for the fatwas of takfir. In that, al-Maliki breached rule six, starting point rule, and committed the fallacy of unfair use of presupposition.

Rule Seven: Argument Scheme Rule

6. Fallacy of Abuse Authority / Speech-6

The House of Representatives, in my estimation, is terminated and sentenced itself or by its Presidency to be expired, through a set of constitutional violations that by their nature make the House of Representatives, unfortunately, this general legislative institution loses many of its constitutional and legal peculiarities.

ان مجلس النواب في تقديري قد انتهى وقد حكم على نفسه او حكمت عليه هيئة الرئاسة بالانتهاء، من خلال مجموعة من المخالفات الدستورية التي بطبيعتها تفقد مجلس النواب، مع الاسف الشديد، هذه المؤسسة التشريعية العامة تفقدها الكثير من خصوصياته الدستورية والقانونية،

Argument Scheme

P1. Through committing a set of constitutional violations, unfortunately, the House of Representatives, this general legislative institution loses many of its constitutional and legal peculiarities

من خلال ارتكابه مجموعة من المخالفات الدستورية التي بطبيعتها تفقد مجلس النواب، مع الاسف الشديد، هذه المؤسسة التشريعية العامة تفقدها الكثير من خصوصياته الدستورية والقانونية

C. The House of Representatives, in my estimation, is terminated and sentenced itself or by its Presidency to be expired

مجلس النواب في تقديري قد انتهى وقد حكم على نفسه او حكمت عليه هيئة الرئاسة بالانتهاء

In the above example, al-Maliki exploited his authority to accuse the House of Representative of committing several constitutional violations, and therefore it should be sentenced as invalid institution. However, if we look at the context of speech 6 (see table 1, appendix A), which was delivered 25 days before the date of holding the election, we would know that there was a continuous conflict between the House of Representatives and the al-Maliki, each accused the other of violating the constitution. Hence, we can infer the following unexpressed premise “any institution that commits constitutional violations is considered to be terminated”. With such a claim, al-Maliki attempted to prevent the House of Representative from issuing any decision against his will. Since the one who uttered that argument is al-Maliki, then his view should be accepted as he is the one with authority. In doing so, al-Maliki breached rule seven, the argument scheme rule, and committed the fallacy of abuse authority. According to Van Eemeren et al. (2002), the speaker commits this fallacy when he inappropriately introduces a proposition based on written resources or on the opinion of a person who owns authority.

Rule Eight: Validity Rule

7. Faulty Reasoning / Speech-4

1. When we felt imbalance, or when our society in that state affected by the imbalance, the imbalance of distinction, of extension, and of exclusion on the home front we got involved into wars and then these wars led us to external wars.	حينما شعرنا بخلل او حينما اصيب مجتمعنا في تلك الدولة بخلل، خلل التمييز وخلل التمدد والالغاء على الجبهة الداخلية، دخلنا في حروب ثم قادتنا هذه الحروب الى حروب خارجية.

Argument Scheme

P1. When we felt imbalance, or when our society in that state affected by the imbalance, t	حينما شعرنا بخلل او حينما اصيب مجتمعنا في تلك الدولة بخلل،
P2. The imbalance of distinction, of extension, and of exclusion on the home front we got involved into wars and then these wars led us to external wars.	خلل التمييز وخلل التمدد والالغاء على الجبهة الداخلية، دخلنا في حروب ثم قادتنا هذه الحروب الى حروب خارجية.
C. There was a violation of human rights by the preceding regime that leads us to get involved in external wars	كان هناك انتهاك لحقوق الانسان من قبل النظام السابق قادنا الى الدخول في حروب خارجية

The above example illustrates the process of committing the fallacy of faulty reasoning, where al-Maliki presented his standpoint based on an invalid reason, even though he introduced the standpoint explicitly, but he left some elements implicit. That is, he implicitly indicates that the preceding regime violated the human rights of the Iraqi citizens. An overall look at the context of speech 4 (refer to table 1, appendix A) clarifies the situation and helps us to infer the following unexpressed premise ‘since the preceding regime had chased al-Maliki in the past; therefore, it violated human rights’. That is, al-Maliki introduced his argument by accusing the preceding regime of being a sectarian regime that violated the human rights of ethnic minorities, indicating that his regime respects the human rights of minorities. Van Eemeren et al. (2002) state that the fallacy of faulty reasoning is being committed when the speaker utilizes invalid explicit reason to implicitly express what is being unexpressed.

Rule Ten: The Usage Rule

8. Fallacy of Unclarity / Speech-5

Brothers and sisters the attendance in the House of Representatives with the insistence on not to discuss the budget is false testimony, and I hope they do not falsely testify for collusion managed against the government inside the House of Representatives, and to disrupt the attendance unless the Presidency responded to the presentation of the draft budget. Thanks a lot to whoever stands against those who want to sabotage the political process.	الاخوة والاخوات ان الحضور في مجلس النواب مع الاصرار على عدم طرح الموازنة هي شهادة زور واتمنى عليهم ان لايشهدوا زورا على مؤامرة تحاك على الحكومة داخل مجلس النواب، وان يعطل الحضور الاّ اذا استجابت هيئة الرئاسة لعرض مشروع الموازنة .شكرا جزيلا لكل من يقف بوجه الذين يريدون تخريب العملية السياسية.

Argument Scheme

P1. brothers and sisters that the attendance in the House of Representatives with the insistence on not to discuss the budget is false testimony, and I hope they do not falsely testify for collusion managed against the government inside the House of Representatives.	الاخوة والاخوات ان الحضور في مجلس النواب مع الاصرار على عدم طرح الموازنة هي شهادة زور واتمنى عليهم ان لايشهدوا زورا على مؤامرة تحاك على الحكومة داخل مجلس النواب،
P2. And to disrupt the attendance unless the Presidency responded to the presentation of the draft budget.	وان يعطل الحضور الاّ اذا استجابت هيئة الرئاسة لعرض مشروع الموازنة
C. Thanks a lot to whoever stands against those who want to sabotage the political process.	شكرا جزيلا لكل من يقف بوجه الذين يريدون تخريب العملية السياسية.

The fallacy of unclarity occurs at two levels: first, unclarity at the textual level including the illogical order, lack of coherence, obscureness, and structure. Second, unclarity at the sentence level that can be expressed by implicitness, indefiniteness, unfamiliarity, and vagueness (Van Eemeren et al., 2002). Al-Maliki used unclarity at the sentence level. The above example al-Maliki referred to those who wanted to sabotage the political process, though he did not identify whom they were. The statement is unclear because there is no reference to whom he referred. However, an overall look at the context of speech 5 (refer to table 1, appendix A) leads us to infer the following unexpressed premise 'anyone stands against the endorsement of the budget, means that he wants to sabotage the political process'. As a result, al-Maliki violated the usage rule and committed the fallacy of unclarity at the sentence level which is represented by indefiniteness.

However, the present study found that there are two types of fallacies that are not included in the PDA, but they are discussed in other references, i.e. Almossawi (2014) and Lazere (2015), who refer to these two types. These are as follows:

1. Fallacy of Either/Or/ Speech-8

The House of Representatives is the legislative body, which has the right **either** to amend this law and correct the procedures through new legislation **or** through a legal amendment on the Commission's law	ومجلس النواب الجهة التشريعية الذي من حقه **اما** ان يعدل هذا القانون ويصحح الاجراءات عبر تشريع جديد **او** عبر تعديل قانوني على قانون المفوضية

Argument Scheme

P1. The House of Representatives is the legislative body	ومجلس النواب الجهة التشريعية
P2. has the right either to amend this law and correct the procedures through new legislation or through a legal amendment to the Commission's law	الذي من حقه **اما** ان يعدل هذا القانون ويصحح الاجراءات عبر تشريع جديد **او** عبر تعديل قانوني على قانون المفوضية
C. The House of Representatives has **either** to amend the law of exclusion **or** to the law of the Independent High Electoral Commission	على مجلس النواب إما تعديل قانون الاستبعاد أو تعديل قانون المفوضية العليا المستقلة للانتخابات

Either/or fallacy also known as a false dilemma. It is a strategy of displaying two positions that might be in opposition to each other when they are mutually compatible or suggest only two feasible alternatives while there are others (Lazere, 2015). In the above extract, we can see the use of either/or fallacy where al-Maliki attempted to reduce complicated things to only two possible choices by limiting his opponent and imposing the opponent to pick up one of the options. That is, either/or fallacy "is an argument that presents a set of two possible categories and assumes that everything in the scope of that which is being discussed must be an element of that set if one of these categories is rejected, then one has to accept the other" (Almossawi, 2014, p. 18). Here, al-Maliki claims that the House of Representatives doesn't have the right to cancel the decision of the Electoral Commission and provides two suggestions that the House of Representatives should choose only one of them. That is, the House of Representative has either to amend this law and correct the procedures through new legislation or through a legal amendment to the Commission's law. Since this strategy is used to limit the choices, the present study suggests that this fallacy can be included within rule one, the freedom rule, because it restricts the other party's freedom from having unlimited freedom.

2***. Fallacy of Stacking Evidence (Half Truth) / Speech-8***

We were surprised as we were preparing for the election with the procedures that the Commission did in accordance with the powers granted to it and in accordance with the law in force related to the process of exclusion or acceptance of candidates in the lists of the election.	فوجئنا ونحن نعد العدة ونتهيأ جميعا للانتخابات، وبعدما قامت المفوضية وفق الصلاحيات الممنوحة لها، وفق القانون النافذ التي تعمل بموجبه باجراءات تتعلق بعملية استبعاد او قبول المرشحين على قوائم الانتخابات.

Argument Scheme

P1. We were surprised as we were preparing for the election	فوجئنا ونحن نعد العدة ونتهيأ جميعا للانتخابات
P2. With the procedures that the Commission did in accordance with the powers granted to it and in accordance with the law in force related to the process of exclusion or acceptance of candidates in the lists of the election.	وبعدما قامت المفوضية وفق الصلاحيات الممنوحة لها، وفق القانون النافذ التي تعمل بموجبه باجراءات تتعلق بعملية استبعاد او قبول المرشحين على قوائم الانتخابات
C. We were surprised by the process of exclusion the candidates	فوجئنا بعملية استبعاد المرشحين

This fallacy of stacking evidence occurs when the speaker presents one side of the truth and deviates the meaning of the whole argument in favor of this side (Lazere, 2015). In the above example, al-Maliki presented one side of the topic and distorted the entire issue. Using the stacking evidence fallacy, al-Maliki attempted to distract the hearer that he was surprised with these procedures that excluded some candidates from participating in the election. The surface of the issue seems to be correct, and it's a matter of legality. The other side of the point is that al-Maliki has control over the Electoral Commission and he orders this Commission to exclude some candidate for political purposes. Al-Maliki did this procedure many times, and on different occasions, he banned any candidate who protests against his policies. According to Ali (2014), the exclusion of candidates was an adopted policy by al-Maliki to prevent those who protested against his policies. Since this fallacy introduces one side of the fact, it is recommended to include it within rule eight, the validity rule.

5. Discussion

The purpose of this study was to determine the rhetorical fallacies employed by Nouri al-Maliki to construct his political speech**;** (i) identify the violated rules in committing such fallacies; (ii) determine the argument scheme that constructed such fallacies. For that purpose, the study adopted the Pragma-dialectical approach proposed by Van Eemeren et al. (2002) to shed light on the use of rhetorical fallacies in al-Maliki's political speech. The results revealed that al-Maliki violated eight rules out of the ten rules of critical discussion and committed 22 fallacies out of 31 fallacies within these eight rules. The study found that al-Maliki violated eight rules of the ten rules of critical discussion and committed 22 fallacies within these eight rules. The results revealed that the PDA is applicable to investigate monologue speech (political speech) as this model was only used to analyze dialogue speech (political debate). This application is valid if we exclude rules two (burden of proof rule) and rule nine (closure rule), as these two rules can only be detected in political debates. Hameed and Al-Asadi (2018) confirm this proposition as they exclude rule nine from their analysis and justify that all the debate is about violating it. Rule two insures that a standpoint that is introduced and called into question in any dispute is defended against any critical attack, i.e. the person who presents a standpoint must always be ready to defend it (Van Eemeren & Grootendorst, 2004; Van Eemeren et al., 2002). As for rule nine, Van Eemeren et al. (2002) state that if the protagonist does not defend his standpoint and convince the antagonist, then he must give up his view, or he will commit the fallacy of refusing to retract a standpoint that has not been defended successfully. Therefore, they are not valid for analyzing monologue speech, as is the case in the present study.

The findings revealed that the use of a pathetic fallacy has the highest proportion (31 times). While the lowest proportion can be seen in the use of populist fallacy (2 times). This indicates that through the use of pathetic fallacy, al-Maliki seems to emphasize certain points, i.e. he attempts to warn his followers

(Shi'a) of Sunni's danger if they won the election and rule the country again. By increasing the feeling of fear, al-Maliki seeks to increase the sectarian feelings against Sunni representatives, a matter that widens the division between Sunni and Shi'a. In fact, sectarianism emerges from different sources and is used for various purposes, among these sources and motives are the religious, political, and social sources (Al-Hindawi & Kadhim, 2021). Based on a pathetic fallacy, al-Maliki constructs the majority of his speech by which he attempts to arouse the emotional side of his listeners, and thereby ensures the persuasive features of his speech. The results also showed that al-Maliki constructed his arguments inductively, indicating that fallacies are inductive arguments that require the inference of the unexpressed premises. The premises of such arguments need not be true because their inferences are derived from the common beliefs that are acceptable by the hearer, where the speaker seeks to persuade the hearer to accept (Shim, 2011). Moreover, the results revealed that PDA is suitable for analysis of monologue speeches (political speech) with the exclusion of rule two and nine as these two rules are more appropriate for dialogue speeches (political debate).

Moreover, the present study identified two types of fallacies that have not been included in the PDA, indicating its lack of inclusiveness. These two types, namely, either/or fallacy and stacked evidence fallacy have received much attention from Almossawi (2014) and Lazere (2015), who introduced them among the types of RF. Hence, these fallacies can be included within the PDA and distributed as follows and according to their purposes; since the fallacy of either / or is used to limit the choices, the present study suggests that this fallacy can be included within rule one, the freedom rule, because it restricts the other party's freedom. As for the fallacy of stacking evidence, it is recommended to include it within rule eight, the validity rule, since this fallacy introduces one side of the fact and distorts the reasoning. The reasoning in the argumentation should be valid or capable of being valid by using one expressed premise or more and unexpressed premises to make the conclusion based on logical inferences (Van Eemeren et al., 2002).

The results were not significantly in line with other studies in political discourse because they did not adopt the PDA. However, concerning the study of fallacies in other fields, more specifically in political debate, the results of the present study were in line with Hameed and Al-Asadi (2018), where they investigated fallacies in Hillary and Trump's second presidential debate. Hameed and al-Asadi found that both Hillary and Trump violated all the ten critical discussion rules and committed most types of fallacies within these ten rules, but they exclude rule nine, claiming that the violation of this rule cannot be counted in numbers because all the debate is about violating it.

6. Conclusion

The study sought to analyze the rhetorical fallacies of Nouri al-Maliki's and how he violated the rules of critical discussion. For that purpose, the study adopted Van Eemeren et al. (2002) to shed light on the use of fallacies in ten political speeches of Prime Minister Nouri al-Maliki. Past studies on fallacies revealed that most studies were conducted to present conceptual studies, i.e. such studies were carried out to understand and develop or extend a theoretical framework for future research. Moreover, most of these studies investigated one or two fallacies in each study. Our present study conducted a comprehensive analysis of fallacies from authentic and real data to better understand the structure of fallacies and the relevant strategies used in communicating all types of fallacies.

Fallacies are arguments and should be addressed from the argumentation theory's perspective. Within the argumentation theory, the argument is an activity of reason because it requires people to propose their claims and defend them based on hard and logical evidence or reasoning. Fallacies take place due to a fault or an error in reasoning, regardless of the validity or relevance of the form. That is to say, the fallacy resides in the meaning or content of the whole argument, including its premises and conclusion. Such an argument becomes unpersuasive as the rationality of the content is lost. The rationality of the argument is inferred inductively depending on the context in which the argument is used. In that, fallacies can only be dealt with from a pragma-dialectical perspective because detecting and interpreting them depend entirely on the context.

The study found that al-Maliki violated eight rules out of the ten rules of critical discussion proposed by Van Eemeren et al. (2002) and committed 22 fallacies out of 31 fallacies within these eight rules. The study concluded that fallacies are inductive arguments because they are based on probability; namely, they might be true and might be not. They require the inference of the unexpressed premise, which can be inferred from the context of the argument and the background information about the topic under discussion. It also concluded that the Pragma-dialectical approach can be used for analyzing political discourse if we exclude rule two and nine because they require an immediate interaction among the discussants, and they are only valid for political debate. Henceforth, the study suggests that these two rules need to be excluded in analyzing political discourse. The study also concluded that the Pragma-dialectical approach lacks inclusiveness because some fallacies are not included in this approach, namely, either / or and stacking evidence fallacy. The study recommends including these two types of fallacies in the Pragma-dialectical approach to enhance its inclusiveness.

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Appendices
Appendix A

Table 1: *Contexts of Nouri al-Maliki's Political Speeches*

Speech	The Context
Speech. 1	This speech was delivered on the occasion of the International Islamic Conference for Dialogue and Rapprochement in Baghdad on April 27 2013, which was broadcast on TV. At that time, there were demonstrations in all Sunni cities against the sectarian policies of al-Maliki. In this speech, Al-Maliki addressed the citizens and the religious scholars of the Sunni cities and warned them of the sectarian disorder that might happen because of the demonstration. He also proposed a project to unify all Muslims that includes all doctrines under the title of Islamic project.
Speech. 2	This speech was delivered on the occasion of getting out of the provisions of Chapter VII, which was broadcasted on TV. In that speech, Al-Maliki attempted to show that this victory is one of his government's achievements. He accused the preceding regime of causing these sanctions over Iraq with its wrong policies and its adventures when it fought many wars that made the UN imposed such sanctions as a punishment for that regime. Al-Maliki also addressed the citizens in Sunni cities to unite and refuse the sectarian proposal of religious scholars and the demonstrators that might tear the unity of the country.
Speech. 3	This speech was delivered during the celebration of International Human Rights Day, which was broadcasted on TV. In that speech, Al-Maliki attempted to show the preceding regime as a sectarian regime that violated the human rights of ethnicities and minorities in Iraq through distinctive policies. He attempted to show that his regime is a democratic one that respects the human right of all ethnicities and minorities and set the election as an example for the democracy of a new regime that came after 2003.
Speech. 4	This speech was delivered at the end of al-Maliki's second term, which was broadcasted on TV. It is one of al-Maliki's speeches before the election that was held on 30 April 2014. Al-Maliki attempted to show the House of Representatives and particularly the head of the House of Representatives Osama al-Nujaifi as the one who prevented the approval of the budget, which may cripple many affairs of the citizens and the state. He also surveyed his government's achievements in fighting terrorism to show himself as a hero who defeated terrorism. Although, at the end of his second term and precisely after three months from delivering this speech, ISIS occupied and controlled about one-third of the Iraqi territory, represented by all the Sunni cities including; Mosul, Anbar, Salah Uddin, part of Kirkuk, and Diyala.
Speech. 5	This speech was delivered in the final month of al-Maliki's second term and before 25 days of holding the election, which was broadcasted on TV. There was a conflict between the head of the House of Representatives (al-Nujaifi), and Prime Minister Nouri al-

	Maliki, each accused the other one of many violations of the constitution. Al-Maliki accused the head of the House of Representatives of supporting ISIS. On the other hand, al-Nujaifi accused al-Maliki of being sectarian who want to prevent Sunni from participating in the election. Therefore, this period was full of mutual accusations between the political parties.

Speech	**Context**
Speech. 6	This speech was delivered after holding a conference about anti-terrorism in Iraq, which was broadcasted on TV. In this speech, al-Maliki surveys the achievement of this conference and the advantage of it for Iraq. Moreover, al-Maliki points out that there is another type of terrorism, represented by the corruption that dominates most of the country's institutions. Al-Maliki accused some ministries of disserving the citizens' affair, which he considered that as an attempt to fail his government. In fact, after 2003, the min'stries were divided according to the quota system, i.e. each party administe's specific ministries. Hence, when al-Maliki accused such ministries of corruption, he only accused the ministries that belong to his opponents.
Speech. 7	This speech was delivered one month before the electoral campaign that started on 1st April 2014. It was broadcasted on TV as one of al-Maliki's electoral campaigns. There was a conflict between the head of the House of Representatives and Prime Minister Nouri al-Maliki. In this speech, al-Maliki defended the procedures that had been taken by the Independent High Electoral Commission in excluding some candidates from participating in the election. Al-Maliki attacked the House of Representatives because it issued an order that cancelled the exclusion of candidates issued by the Independent High Electoral Commission. According to Ali (2014), critical candidates' disqualification was a part of al-Maliki's electoral strategy. Before the elections, many candidates were disqualified from the elections for different reasons among them the former finance minister Rafia al-Issawi who was disqualified due to an existing arrest warrant against him. The other disqualified candidate was Mithal al-Alusi because he criticized Maliki in a TV interview.
Speech. 8	This speech was delivered at the beginning of the parliamentary electoral campaign that was held on 30 April 2014. It was broadcasted on TV as one of al-Maliki's electoral campaigns. In this speech, al-Maliki started predicting the processes of downing others and the campaigns of rumors, counterfeiting, forgery, and mutual accusations. Moreover, in this speech, al-Maliki started to promote his project of the political majority. He also outlined his government's achievement in supporting the Independent High Electoral Commission for the preparation of the election.
Speech. 9	This speech was delivered on the occasion of closing the dam of Fallujah by al-Qaeda and ISIS. It was broadcasted at the beginning of the parliamentary electoral campaign that was held on 30 April 2014. It was broadcasted on TV as one of al-Maliki's electoral campaigns. In this speech, al-Maliki attempted to connect al-Qaeda and the preceding regime of al-Ba'ath party by adhering all the bad deeds of al-Qaeda with al-Ba'ath regime. In doing so, he adopted propaganda of vilifying the preceding regime to show a good picture of his regime, which, according to him, is a democratic one and is the best to lead the country.
Speech .10	This speech was delivered one week before the parliamentary elections in 2014, and it was broadcasted on TV as one of al-Maliki's electoral campaigns where the competition between the candidates reached its climax. In his attempts to gain more votes, Al-Maliki warned the Iraqi citizens of the process of downing others and the campaigns of rumors, counterfeiting, forgery, and mutual accusations. While he excluded and toppled many of the candidates from participating in the election. According to Ali (2014), critical candidates' exclusion was an adopted policy by which al-Maliki excluded his opponents, where he excluded many candidates for superficial reasons.

Appendix B

Table 2: Committed Fallacies in Ten Political Speeches of Nouri al-Maliki

Fallacies	Speech. 1	Speech. 2	Speech. 3	Speech. 4	Speech. 5	Speech. 6	Speech. 7	Speech. 8	Speech. 9	Speech. 10	Total
Fallacy of Sacrosanct	-	-	1	1	1	-	3	-	-	-	6
Declaring Standpoint Taboos	1	2	2	-	-	-	1	-	-	1	7
Fallacy of the Stick	-	-	-	1	1	1	-	-	1	1	5
Appeal to Pity	-	-	-	1	-	-	-	1	-	1	3
Abusive Variant (direct personal attack)	3	2	2	1	5	3	2	2	-	3	23
Circumstantial Variant (indirect personal attack)	2	1	1	-	1	-	-	-	1	1	7
Tu quoque Variant (you also variant)	-	-	-	-	-	-	-	-	-	-	-
Misrepresenting the genuine standpoint by exaggerating (straw man)	2	1	2	1	-	-	1	4	-	3	14
Misrepresenting the genuine standpoint by oversimplifying (straw man)	-	-	-	-	-	-	-	-	-	-	-
Emphatically putting forward the opposite standpoint	-	-	-	2	1	1	2	2	1	2	11
Referring to a group which the antagonist belongs to	-	-	-	-	-	-	-	-	-	-	-

Using fictitious expressions	-	-	-	-	-	-	-	-	-	-	-
The fallacy of irrelevant argumentation	-	-	-	-	-	-	-	-	-	-	-
A pathetic fallacy (pathos) (negative/positive)	2	4	1	4	3	3	4	-	4	6	31
An ethical fallacy of abuse authority (ethos)	-	-	1	-	3	3	1	1	-	-	9
Magnifying what has been left unexpressed	2	1	2	1	3	1	2	3	1	2	18
Fallacy of denying an unexpressed premise	-	-	-	-	-	-	-	-	-	-	-
Unfair use of presupposition	1	2	-	-	1	1	1	1	-	-	7
The fallacy of many questions	-	-	-	-	-	-	-	-	-	-	-
Fallacy of circular reasoning	-	1	7	1	2	2	2	1	-	1	17
Populist fallacy	-	-	-	-	1	-	-	1	-	-	2
Fallacy of inappropriate appeal to causal relation through confusing facts with value judgments	1	-	2	1	2	-	1	-	1	1	9
Fallacy of inappropriate appeal to causal relation through the use of post hoc ergo propter hoc	1	-	1	2	2	-	-	-	1	1	8

Fallacy of inappropriate appeal to causal relation through the use of slippery slope	2	-	-	1	1	2	1	-	1	1	9
Fallacy of abuse authority	-	2	-	-	1	-	2	3	-	3	11
Fallacy of hasty generalization	1	-	1	-	-	1	-	1	-	2	6
. Fallacy of false analogy	1	1	1	1	-	-	-	-	2	-	6
Faulty reasoning	1	-	2	1	1	1	1	-	1	2	10
Fallacy of division / composition	-	-	-	-	-	-	-	-	-	-	-
The fallacy of unclarity	1	1	-	1	2	1	-	1	-	1	8
The fallacy of ambiguity	-	-	-	-	-	-	-	-	-	-	- 227

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Analysis of the colors clothing of Hazrat Ali's illustrations in Kavarannama based on the views of 'Ala' al-Dawla Simnani

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ABSTRACT

This research analyzes the colors of the illustrations of Imam Ali (peace be upon him) in Khavaran-nama based on the views of 'Ala' al-Dawla Simnani. The remarkable approach of Muslim sages and mystics to "color", ended up to subtle meanings and delicate concepts of this artistic element that can be seen in Iranian-Islamic arts, including Iranian painting. Ala Al-Dowleh Semnani is one of the most important Iranian mystics who has mystical reflection and attention to color and has used colors a lot in his Nourieh treatise which describes the journey and behavior of seekers. Khavaran-nama is one of the valuable works in the history of Iranian painting, which includes the admirable paintings of a painter named Farhad. Considering that Khavaran-nama has a theme for all Shiites, it seems that the painter has also benefited from mystical concepts. Therefore, in this study, the researcher seeks to answer the question that 1. Has the views (Opinions) of Ala Al-Dawla Simnani had an effect on the use of Imam Ali pictorial color illustrations in the Khavaran-nama? By examining the opinions of Ala Al-Dawla Simnani regarding color, he tries to show the mystical representation of color in the pictorial drawings of Imam Ali (peace must be upon him) in Khavaran-nama. The research method is descriptive-analytical and the method of collecting materials is a library collection. Farhad, by using distinctive and bright

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colors, has used them in the service of the core meaning, and according to the Shiite theme, it can be said that referring to Shiite and mystical sources of color has been very probable.

Keywords: Color, Khavaran-Nama, 'Ala' Al-Dawla Simnani, Mysticism.

INTRODUCTION

One of the important elements in many civilizations is the occult and symbolic use of color. In Iranian-Islamic civilization and art, the element of color has been very important and effective, especially in painting. In general, color is considered in two fields of physics and metaphysics; in the second field, it is related to the world of meaning and is the cause of advent that Muslim sages and mystics have also had significant opinions in this regard for their pilgrimage and world of intuition. They gave a different color for each rank and position. So that they wore the same color of their clothes and established a kind of harmony between their inner and outer self. 'Ala' al-Dawla Simnani in his mystical thoughts has achieved seven Levels of Existence, each of which has described the existence of beings with a specific color. Considering the characteristics of Persian-Islamic painting, which deals with the world of Forms, it can be said that in choosing colors, the artist has escaped from realism and may have referred to theological and mystical reflections, especially in the paintings of Khavaran-nama which has examples of those Shiite themes. The study of the semantics of color in mysticism and through it in the works of art, especially Iranian-Islamic painting, which in a way depicts the world of Forms, helps us to understand how the soul ascends from the stage of humanity; to understand the divinity through the color of various manifestations and epiphanies. Therefore, in this study, the researcher seeks to answer the question of whether the opinions of 'Ala' Al-Dawla Simnani had an effect on the use of pictorial color drawings of Imam Ali (peace be upon him) in the Khavaran-nama? First, the views of Ala Al-Dawla Simnani regarding color are discussed and then, by selecting five paintings in which Imam Ali is illustrated, the researcher analyzes the clothing of Imam Ali and other mystics - in these drawings - with the views of 'Ala' Al-Dawla Simnani.

REASEARCH METHODS

The method of this research is descriptive-analytical and the method of collecting materials is library collection. The statistical population is the drawings of Khavaran-nama, of which 5 drawings were selected for analysis. For the sampling method for the study, those illustrations in which Imam Ali and other mystics were present and the color variation is evident are chosen in order to perform different analyzes. The analyzes have been done from the perspective of the color of the saints' clothes, relying on the opinions of Ala Al-Dawla Simnani.

RESERCH BACKGROUND

Khavaran-nama drawings have been researched from different perspectives and can refer to Mohammad Memarzadeh's essay (2011) entitled "Khavaran-nama from the perspective of painting, emphasizing the effective factors in the formation of the work of art and analysis of its symbols". This article, while explaining the effective factors in the formation of images (drawings), has analyzed their symbols and concepts, and its analytical achievement has shown the close links between art, religion, and also shows the interactions of art, religion and politics. Also, Saeed Akhavani and Fataneh Mahmoudi (2018) in an article entitled "Analysis of semantic layers in Khavaran-nama drawings with an iconology approach" have given a methodical reading using the iconology approach to analyze and reveal the semantic layers of several images of this version (Khavaran-nama). In regarding of the opinions of Ala Al-Dawla Simnani, we can refer to the article of Jamshid Jalali Sheijani (2014) entitled "The code of light and color in the opinions of Ala Al-Dawla Simnani and Seyyed Mohammad Nourbakhsh" which examines color and light in Semnani and Nourbakhsh. This article examines color and light in Semnani's and Noorbakhsh's works and finally concludes that the concept of color and light in some of the mystical texts of Kubrawiya and the works of Semnani and Noorbakhsh, can open a new realm for human beings in understanding mystical revelations. Behrouz Awazpour and Fatemeh Mehrabi (2019) in their article "Analysis of the colors of a tomb cover of the Safavid period based on the views of Ala Al-Dawla Simnani" have analyzed the colors of a tomb cover in the Safavid period based on the views of Simnani. They have read that work of art and have considered the purpose of their research to be to go beyond the mere reading of these opinions and to achieve the practical application of these opinions. Also, Masoumeh Yadegari's master's dissertation under the guidance of Hanieh Nikkhah (2017), entitled "Analysis of how Timurid painters were influenced by the views of Ala Al-Dawla Simnani' regarding colors" with the aim of analyzing how Timurid painters were influenced by Ala Al-Dawla Simnani's ideas in color. They have concluded that: In addition to the view of mystics, the description of color in the Qur'an and Persian traditions and poems has probably been influential in the choice of color by painters, and Semnani's special view of light and colors has not had a direct effect on painters in Herat school. Also, Zeinab Chavoshi under the guidance of Hassan Balkhari Ghahi (2009) in her master's thesis entitled "Aesthetics of Lataif (subtlety) of light in the views of Ala Al-Dawla Simnani with emphasis on the drawings of the Ascension Letter (Meraj0nama)", emphasizing the views of Ala Al-Dawla Simnani to study the views of Iranian scholars and thinkers with the interior levels of light, it deals with historical primacy and recency, respectively. Finally, they have examined the images of the prophets in the Meraj-nama and Habib al-siyar. They have come to the conclusion that the painter has used symmetry based on his deep philosophy and the combination of religious and mystical concepts, and by resorting to the aesthetics that govern painting. This symmetry, consciously or unconsciously, is evident in the color and light, the composition and clothing of the prophets, and the subtle color of their existence in the paintings. In the book "The Man of Light in Iranian Sufism" by Henry Corbin

(2004), the famous French Orientalist, the views and opinions of Iranian mystics, Sufis and scientists including Ibn Sina, Suhrawardi, Baqli Shirazi, Najmuddin Kobra and Ala Al-Dawla Simnani have been studied comparatively with Zoroastrian's belief in the field of color concept and light. Regarding color, researches have been done that due to the length of the speech, it is enough to mention one book, the book "Light and Color in Islamic Mysticism up to the Ninth Century" by Sakineh Ansari (2013), which introduces the functions of light and color in the way of Kubrawiya. In addition to studying the specific attitude of the Sufi sect in mystical interpretations of the Qur'an and their scattered speeches in the books of the Tabaghat-e Sufi (Classes of Sufi), the historical evolution of their views and how it is used in different centuries is also discussed. In this regard, topics such as: the background of color and light in religions, symbolism of color (white, black, green, red, blue, purple, etc.) in religions, the concept and nature of light, the place and status of light, light quality and how to receive light, levels and degrees of light, etc. have been studied. Looking at the researches, except for the last article, which analyzes the colors of a work of art with the opinions of Ala Al-Dawla Simnani, they (books) did not have an analytical approach based on the opinions of Ala Al-Dawla Simnani. Therefore, in this research, the author tries to analyze the clothing of Imam Ali (Peace Be Upon Him) in some pictures from the Khavaran-nama, based on the views of Ala Al-Dawla Simnani.

THE VIEWS OF ALAA AL- DAWLA SIMNANI

Sheikh Ala Al-Dawla Simnani, through the views of Sheikh Najm al-Din Kubra, explained a theory in which he used light, color and seven subtleties to bring the enlightened man to reality. "Najm al-Din Kubra was the first Sufi master to base his view on the phenomenon of color and the feeling of colored lights that reach the mystic throughout the spiritual world" (Henry Corbin, 2004). In their sect, which is known as the "Kubrawiya Order", the seven subtleties are compatible with color and light. In fact, in the eyes of the Kubrawiyan people, in every aspect of human subtleties, a matching color and light of that subtlety appear, and with the discovery of any light, if it lasts and survives, its subtlety will be revealed (Mohammadi, 2001). Semnani in "Human Mystical Organology", perfected color and light in the form of a mystical human being. In his mystical interpretation of the Qur'an, he expressed his views by considering its seven esoteric meanings and citing a kind of mystical organology and existential levels that existed in the Kubrawiya Way and even before that. The above subtleties are: nature, soul, heart, secrecy, secret, isolation, which are seven levels of humans. The basis of Ala al-Dawla Simnani's views and thoughts can be sought from his manifestation. This concept is important to Ala al-Dawla Simnani, because it determines the relationship between right and creation in his views. His explanation is that since the divine attributes and essence are the same, if he wants to express the present essence and attributes, he must manifest it (Awazpour and Mehrabi, 2019). This view is based on the hadith "I was a hidden treasure, I wanted to be known, so I created the creatures" (Ibn Arabi, n.d.). Ala al-Dawla

Simnani considers the manifestations of God to be formal, light, spiritual and tasteful, and counts them innumerable.

He says, "Apparent manifestation is the beginning of attainment. It is through the act of truth and the manifestation of medium-light through the ray of current attributes, and it is on two horizons to observe the manifestation of light on the horizon. Because it has reached spirituality, on the horizon of eternity, it is mediocre, and the manifestation gives astonishing astonishment, and is free from error, Shath, and buncombe. Because it is the manifestation of nature." (Simnani, 1990) In this regard, Simnani believes that the correct understanding of the mysteries of the universe and the manifestations of God depends on understanding its levels, and the levels of existence, obligatory and levels of the world begin in the descending arc. It ends with man joining his origin or principle. "The graded truths, which are embodied in the Seven Subtleties, will return to their origin in the place of ascension, and will be excited by its attachment to the principle, and will find eternal pleasures forever." (Simnani, 1990). In the following, we will deal with the seven levels of God's light manifestations, which are called Latifa Sab'a (Seven Subtleties), in order to become more familiar with Simnani's views.

LATAIF-E-SAB'A (SEVEN SUBTLETIES) IN THE OPTIONS OF ALA AL-DAWLA SIMNANI

The theoretical foundations of Latifa Sab'a according to Simnani are based on this hadith of the Prophet (PBUH): for the Qur'an it is external and inside and for its inside it is another esoteric up to seven insides (Feyz Kashani, 1993). He adapts what Kubrawiya calls the seven-dimensional of the heart to the state of the soul in relation to the truth which he interprets as the subtle, and shows each of the subtle subtleties in accordance with the appropriate color. This kind of Sab'a in the existence of man, which is considered a Microcosm, has the ruling of the existence of prophets in the Macrocosm. As each of these subtleties indicates the spiritual face and the position and rank of the Prophet, the manifestation of which is a subtlety in the Macrocosm (Zarrinkoub, 1990). In each of these subtleties, there are ten thousand covers and curtains in front of human beings, which, when raised, prepare the ground for entering the next subtlety. Here are seven subtleties:

Lataif-e-Ghalebiyeh (Subtlety of Form): The first subtlety that is presented is called Being and is related to the physical form. This subtlety is the beginning of man's spiritual journey and its color is then close to smoky gray and its veil is slightly bluish. In describing this subtlety, it can be said that the mystic in the experience of this subtlety should think and ponder on every verse that is revealed to Adam in order to find its secret and benefit from the grace of the divine word (Modarressi, 2002). For Simnani, this stage is the status of the body and is more an idea of existence than form or figure. It has been said before that this time is called Being by Semnani, and this naming is due to the fact that Hazrat Adam (pbuh) also originated at the beginning of creation, from the world soul (Kakai and Mahmoudian, 2009).

According to Corbin, "this subtlety cannot begin to take shape before the physical body is complete. It has the shape of a body; but in the subtle state, it can be said that the embryonic form of the body is fresh; a delicate body is obtained." (Acquired body) "(2004, 178).

Latifa Nafsiyah (Subtlety of Spirit): Ala al-Dawla says about Latifa Nafsiyah: "When the fire of remembrance of Shahada reaches the heart, the secret fire in which it is embedded appears and falls into the spark of the spirit, and existence is ignited by it, and the veil is broken. The finer the bites, the smoother the color, and the less the smoke, the more the smoke disappears, the more pleasant the odors, and the brighter the color, and the more spiritual the observation. Because of the fire of dhikr (Shahada), the doomsday cometh and the light of the soul appears. The mixture of red, white, blue and black colors in this position is one of the strengths of the fire of dhikr. This position is afflicted and corresponds to the position of Prophet Noah (pbuh) and its special color and halo is blue (Modarressi, 1381). The perception of this subtlety is done with an organ that is in line with the presumptive soul. The spiritual, which is the central organ of the center of filthy desires and lusts, the Qur'an calls the soul of presumptive. And, in the face of his lower self, he is in the same position as Noah, who faced the enmity of his people, and when the seeker overcame it, this delicate organ is called Noah of your being (Corbin, 1979).

Latifa Ghalbiya (Subtlety of heart): Simnani describes this subtlety as follows: "In the next stage, the light of the heart rises and its veil is red agate. Seeing that light, a great taste reaches the heart of the seeker and causes him to persevere in his behavior" (Simnani, 1990,16). In fact, this subtlety is like a shell in which the human being grows up and his dynasty ends with Muhammad (PBUH). In this subtlety, based on the data of the Qur'an, the seeker reaches the specific events and inner states of Ibrahim (pbuh) and is surrounded by a red halo of light (Modarressi, 2002, 262). A place for that spiritual soul is in the heart of man. This organ is the image of Ibrahim Hastiyat or "Ibrahim of Existence" which is another image of the world of meaning (Balkhari, 1390). Corbin says in connection with this subtlety, "in this subtlety, the fetus of a human child's mystic appears inside him. In fact, this child is the truth of man and the main center of perception of spiritual and divine truths of man (1979, 179).

Latifa Serriyeh (Subtlety of secrecy): This subtlety is in the heart of the heart, and through this subtlety, a person prays to his God. The color of the light in this subtlety is white. "Next, the green light emits and its shade is white. In this position, science takes pleasure in being discovered (secret subtlety)" (Eftekhar, 2013). This subtlety, which was also interpreted by 'Ala' al-Dawla Simnani as Musa Hastiyat (Moses of Existence), is an organ that is defined to understand the hidden meaning of the secret and to use it to step on the principles of superconscious perception. This subtlety is related, on the one hand, to the Moses of Existence and, on the other hand, to the perception of the secret that the place and organ of intimate conversation is a secret relationship, or (secret prayer) with God, just as Prophet Moses (pbuh) in the mountain Jabal Mousa experienced (Corbin, 1979). This subtlety is the position that the mystic man is alone with his God and deals with secrets, needs and prayers.

Latifa Rouhiya (Subtlety of soul): The fifth subtlety, as its name implies, is related to the soul. The color of this stage is yellow and very charming, as the Sheikh describes it as follows: then the curtain of the soul, the color of which is very charming, appears. Its yellow color is extremely pleasant and when you see it, your soul becomes weak and your heart becomes strong (Semnani, 1990). The proportion of this subtlety in the Microcosm of human existence with Prophet David (PBUH) in the Macrocosm is due to the fact that God has made him his caliph in the land with the verse of David, who made you his caliph (Debucourt, 2000).

In the description of this subtlety, its function and its relationship with Prophet David (pbuh) we can refer to the position of the divine caliph of man on earth and that man in such a position and with the knowledge of such a thing can metaphorically his soul in other phenomena. This subtlety is a universal image of courage and beyond the form and has a very honorable place (Kakai and Mahmoudian, 2009).

Latifa Khafiya (Subtlety of secrecy): This subtlety is attributed to the Truth and in the hierarchy of officials and spiritual states, it is the stage of reaching the rank of a prophet. The fact is that it is the center and secret place of the outpouring of the Holy Spirit and represents the divine nature in the world of divinity and corresponds to the position of Jesus (PBUH) in the Macrocosm (Modarressi, 1381). "In the next stage, a hidden light is manifested and its color is black, the extremely smooth and awesome black. Sometimes, the seeker, seeing this curtain, perishes and trembles on his being. Everyone finds himself in the light of Mustafa (The Chosen), he is embraced with the shadow of His support, reaches the light of attributes, and takes the cup of love from Kowsar Inayat (Well of Abundance) and prepares it for the property of the Almighty to manifest to him in the attribute of glory and beauty, and a hidden light appears" (Forouhar, 2002). The reason for naming this subtlety as the subtlety of secrecy and the reason for its connection with Jesus (PBUH) is because this Prophet (PBUH) had announced the end of prophethood by Prophet Muhammad (PBUH). Therefore, at this stage, and through the subtlety of secrecy, the mystic becomes aware of approaching perfection, which is the culmination of his aspirations. Corbin believes in this regard that, Christ (PBUH) calls the name to all people; The name that Christ calls is the seal of existence; and that is why it is mentioned in the Qur'an that Jesus (PBUH), as a prophet who came before Khatam al-Anbiya (Last Prophet), promised the last prophet (1979, 79).

Latifa Haqiya (Subtlety of Truth): The seventh and last subtlety, which is known as the position of truth or the world of divine essence and goes back to the divinity of human existence. This organ is the image of the true self, and the color of this subtlety is green, and if He has fulfilled the right of this position, the absolute light, which is the special attribute of the right, is manifested from purity, unity and sacred from connection and separation, and its veil is green. Its greenness is a sign of the life of the tree of existence. This curtain is the curtain of the unseen (Semnani, 1990). This subtlety represents The Rare Gem of Muhammad. This subtlety in the Microcosm, which is the existence of man, is like the Prophet Muhammad (PBUH) in the Macrocosm. (Zarrinkoob, 1998). This subtlety, which is the last subtlety of Simnani, is named after the Prophet (PBUH) because it is the end of the virtues and the last levels of the soul. In proportion to the same relationship that the Prophet (PBUH) and human beings have with the Macrocosm and the Microcosm, this subtlety has the status of the Macrocosm in the existence of man, who is the Microcosm.

Thus, the subtlety of structure of the Lighted human body proceeds through the seven subtleties, each of which is the seven prophets of the universe; That is, the human perfection that the seeker seeks to achieve in different stages is achieved through seven steps. And it can reach the ultimate perfection when it takes on the divine character in every subtlety appropriate to the prophet who corresponds to it, and finally achieves the final goal by achieving the divine morality that is crystallized in the Prophet Muhammad (Corbin, 1979).

In this section, the intellectual principles of Ala Al-Dawla Simnani and his theoretical foundations in relation to the subtleties of Sab'ah were discussed. In the following, we have described their analytical application on the clothing of Imam Ali (pbuh) in the visual version of Khavaran-nama.

THE ILLUSTRATED MANUSCRIPTS OF KHAVARAN- NAMA

Khavaran-nama is the most famous work of Shams al-Din Mohammad Ibn Hussam al-Din Hassan known as Ibn Hussam Khosfi Birjandi and is based on the style and context of Ferdowsi's Shahnama in describing the wars, heroism of Imam Ali (PBUH) and his faithful companions such as Malik al-Ashtar, Abul-Mahajan, and Amr ibn Ma'adi Yakrib has been composed and has used the admirable paintings of a not so familiar painter named Farhad. His signature in the margins of Khavaran-nama drawings, which is the second signature of Iranian painters after Joneyd, confirms this fact. In these paintings, Farhad, based on the Timurid art, which was also influenced by the Shiraz school, has illustrated beautiful paintings with the help of his two pupils. Bright and vibrant colors are considered as one of the most important features of Shiraz school, which means rich and exciting colors in the Turkmen school. (Khosfi Birjandi, 2002).

Khavaran-nama was prepared in Shiraz in the ninth century (Islamic calendar) under the support of the Turkmen dynasty and later divided into several parts. Today, its unique paintings are housed in art collections of the United States and at the Chester Beatty Library in Dublin. But most of its drawings are in the Museum of Fine Arts in Tehran. Of course, some of its illustrated ones are available in other libraries around the world (Shayestehfar, 2005). Some of these paintings have the signature of an artist named "Farhad" with the title of "Lowest Servant", which belongs to 1476 AD. These drawings have rare compositions that show Farhad's mastery in designing and using imagination. In them, the shape and color of the clouds are completely abnormal; clouds, in golden color, are located in the blue background of the sky (Rahnavard, 2007). The stories of Khavaran-nama are all about the heroism and bravery of Imam Ali and his companions against the enemies and infidels. The book includes mythical stories in which Imam Ali confronts legendary creatures such as dragons and strange places and monsters. The deeds and heroism of Imam Ali and his companions in the scenes of wars show the historical events and stories that - next to the scenes of war and battle - have social, religious, and moral themes. The acceptance of illustrated manuscripts of Khavaran-nama by artists has caused the name of this work to reach among the books of art history, especially works related to the art of book decoration, gilding, painting, and the history of painting. This issue has also given Khavaran-nama an artistic status. In most of the works written about Iranian painting, Khavaran-nama is mentioned as a masterpiece in the field of Iranian painting (Hosseini Rad, 2005).

ANALYSIS OF THE CLOTHING OF IMAM ALI IN FIVE DRAWINGS OF KHAVARAN- NAMA BASED ON THE VIEWS OF 'ALA' AL-DAWLA SIMNANI

In general, in Iranian painting, it is believed that this art has an intrinsic relationship with meaning since form and color in this art are not faithful to the realities of the external world. Sky, clouds, mountains, and plains have different colors and forms in this world. Since perspective is not seen in-depth, color is also the narrator of another world (the World of Forms) (Bolkhari, 1390).

The discovery of this aversion to color and the creation of an exemplary and unreal world with colors can be considered as the result of great care in the Qur'an and hadiths as the main sources of ideas and thought in Islamic civilization. Moreover, the profound philosophical reflections by Muslim sages and philosophers and, most importantly, the revelation of Muslim mystics, could influence the construction of the unreal world (Wolrd of Forms). The approach of the Qur'an and narrations in exemplary world illustration using color as well as theological and mystical thoughts about it gave a special and thought-provoking place to this visual element (Bolkhari, 2015).

ILLUSTRATION NO. 1: BATTLE OF IMAM ALI WITH THE DRAGON

It seems that Farhad (The painter of Khavaran-nama) also benefited from these reflections in the use of color. Therefore, the author continues to analyze the use of color in the clothing of Imam Ali and other saints in several drawings of the Khavaran-nama with Simnani's opinions.

It shows Imam Ali's battle with the dragon. The army of enemy is facing the army of Islam behind a hill. Imam Ali (AS) is seen in this painting with a white turban and a blue and red clothing.

Figure 1. *Battle of Imam Ali with the dragon, Source: (Khosfi Birjandi, 2002, 123)*

The blue color belongs to the subtlety of the soul and is a bed for confronting the lowly soul. According to Corbin, "the second organ is in the category that is in harmony with the soul (the subtlety of the Nafsiya); not what is the place of spiritual processes, but what is the place of organic vital processes and the sensory soul of life. Lust is evil, so the Qur'an calls it the soul of evil, and its role is enumerated to us by Najm Kubra, when he speaks of the three souls (Nafs), which means that in the realm of subtleties, this subtlety is in line with a category that examines the heaven seeker; he is in the same position as Noah when confronted with his inferior self, which was met with hostility from his people. When the seeker overcomes it, this delicate organ is called the Noah of Existence." (Corbin, 2004). The battle between the hero and the dragon is, in fact, another interpretation of man's struggle to cross the dark world to reach the self. Here the cosmic forces of evil are depicted as dragons and other demons. The root of the word dragon and Zahak in Shahnama is the same (Yahaghi, 2007). In this painting, Imam Ali appeared in front of the force of Nafs (self), which was in the form of a dragon, with power (with the sword of Zulfiqar, which represents his character) and with a strong blow on the dragon, which caused blood to flow from the dragon's head. It actually causes the failure of the self-force (Nafs al-ammarah) (Illustration No. 1).

Blue color, psychologically, means calm and from a physiological point of view, it means happiness. It means being satisfied with the state of relaxation while enjoying it. This color indicates the fulfillment of the happiness of unity and is the manifestation of infinite eternity (Luscher, 2002, 78-80). Therefore, it can be said that Imam Ali (AS) achieved satisfaction and peace by defeating the enemy or the power of the Nafs ammarah (Evil soul), and in fact, ten thousand curtains are removed and bright blue light appears, which - for this Imam - is permission to pass through the subtlety of the soul. Imam Ali's undergarment is red.

Regarding the red color, it was said that it belongs to the subtlety of the heart, and Ala 'al-Dawla Simnani refers to it as "Ibrahim of Existence", and Corbin states in his analysis that the third delicate organ is the organ of the heart (the subtlety of the heart). In this organ, the child grows, like a pearl in the heart of an oyster. This pearl or child is nothing but a delicate organ that will be the true self or the true personal individuality of Man (Latifa Anaieh). The reference to this spiritual "me" - who will be a child engraved in the heart of the mystic - immediately explains to us why this delicate center of the heart is named after Ibrahim (Corbin, 2002).

Seeing this bright color, "a great taste comes to the heart and endurance in behavior emerges" (Simnani, 1390). In modern psychology, the red color means the need to achieve the desired results and succeed, that is, the motivator of the will to win. Red means either the effect of will or the power of will (Lüscher, 2002). In this illustration, it can be said that by defeating the Nafs Amara or demon, the true knowledge of the person can be reached, which takes place in the next stage. Considering that the undergarment (innerwear) of Imam Ali is red, it can be said that the next stage is the path to the truth and also shows the courage, strength, and willpower of Imam Ali.

ILLUSTRATION NO. 2: BATTLE OF IMAM ALI (AS)WITH MYTHICAL CREATURES

The plot of the story is that; one-day Imam Ali (AS) saw an old man worshipping an idol. The Imam put the old man next to him and brought him to the Prophet. They wanted him to convert to Islam, and he made his conversion to Islam conditional on drinking water from a well called Bir Aleilm (Well of Knowledge). The Prophet wanted someone to go and get water. Gabriel informed the Prophet that there is an underground wilderness with seven countries. God makes Imam Ali (AS) to go and convert his inhabitants to Islam. Imam Ali entered the well. The inhabitants of the underworld tore his rope and he landed on a mountain; suddenly he saw a land full of jezebels and raging divans (Soltani et al., 2000). Their king was a seven-headed demon. The Imam went to war with the demons and killed everyone. With the death of the seven-headed demon, all the Jinns surrendered and converted. The Imam came out victorious and gave the jugs of water to the old man (Sarai, 2000).

In this painting, Imam Ali (AS) is seen in a golden dress and a red diadem with a white turban on his head, which is surrounded by a fiery halo. It is said about the yellow color that it belongs to the subtlety of the spirit and it is described as follows: The fifth subtlety is the spirit (subtlety of spirit.) This organ, from its honorable position, rightly represents God and is called the David of Existence (Corbin, 2004, 158). This representation is due to the fact that Prophet David (PBUH) is one of the few prophets to whom God gave wisdom and rule at the same time and made him a perfect example of the divine caliph on earth.

Figure 2. *Battle of Imam Ali (AS) with mythical creatures, Source: Khosfi Birjandi, 2002, 64.*

The light of the human soul has not risen and the very soul-pleasing yellow color does not appear until the Nafs (Lust) is not subdued and the heart is not strong enough against it. The color of the light of the soul is described with the adjective "extremely pleasant" and the most important effect and psychological message of this color is to create strength and courage in the seeker. "Seeing it makes the Nafs weak and the heart strong." The profound effect of yellow on the heart indicates the fact in mystical chromatography that yellow belongs to the "heart". In a fire, the yellow color is the ray of the heart (Simnani, 1983, 265). Physiologically, yellow means relief from responsibilities, problems, harassment or restrictions "(Luscher, 2002).

In this painting, by defeating the seven-headed demon, Imam Ali causes all jinns to believe in Islam and become Muslims. His presence in the well shows his strength and courage. Considering this verse of the Qur'an that "God conquered the jinn and demons to David" may be related to the fact that the painter used a very pleasant golden color for clothing of Imam Ali which is in touch with a "subtlety of the spirit" and David the Prophet.

ILLUSTRATION NO. 3: GABRIEL SHOWS THE EXTRAORDINARY MIGHT OF IMAM ALI TO THE PROPHET MUHAMMAD

In this painting, Gabriel shows the courage of Imam Ali to the Prophet (PBUH). The Prophet (PBUH) and Imam Ali (AS) have a similar halo. Imam Ali (AS) on horseback, holding his sword and talking to the Prophet. The Prophet is standing on the roof of a mosque, at the bottom of which is a white inscription on a black background with the text "God Almighty is infinite". In this painting, Prophet Mohammad (PBUH) is seen in black and white and red, and Imam Ali is seen in dark blue and red. Gabriel is also depicted with red clothing and green wings (Illustration No. 3).

Figure 3. *Gabriel shows the extraordinary might of Imam Ali to the Prophet Muhammad, Source: (Shayestehfar, 2005, 88)*

Black belongs to the subtlety of secrecy. The sixth subtlety is linked to a center whose best Latin is Arcanum (Subtlety of Secrecy). The help and inspiration that come from the Holy Spirit are received with this organ. In the series of spiritual states, this organ is a sign of attaining the status of prophet or messenger and is the "Jesus of existence". It is Christ who gives the name to all the other subtle organs and people within these senses. Because he is their secret and the name, he calls is the seal of existence. As it is said in the Qur'an (Al-Imran/6) that Jesus, at the base of the prophecy, who came before the last prophet of our time, promised the last prophet; the advent of the Paraclete (Corbin, 2002, 180). White also belongs to the subtlety of secrecy. This is the position and organ of intimate conversation, secret communication or "secret prayer" (prayers) and is called the Moses of Existence (Corbin, 2002).

With the descriptions mentioned above, the choice of color for the Prophet Mohammad's clothing (PBUH) was the best choice by Farhad. The location of Prophet Mohammad on the mosque building is also an emphasis on secret prayers. Regarding the clothing of Imam Ali, it can be said that the blue color indicates overcoming the enemies and the same "Noah of Existence" and the red color which means "Abraham of Existence". The subtlety of spirit that the seeker at this stage, like his prophet Ibrahim, sees the red agate after the hardships in the face of divine trials. Perhaps it can be inferred that achieving the true self depends on sacrificing the fruit (Nafs) of the human heart, in which the best example for man is the Prophet (PBUH) and his special faith in the truth. As in the illustration, the innerwear of the Prophet (PBUH) is also shown in red. Considering that the defeated enemies of Imam Ali (AS) can be seen at the bottom of the picture, it can indicate the superiority and legitimacy of Imam Ali in this path.

ILLUSTRATION NO. 4: AL-KHIDR COMING TO MEET IMAM ALI

In this painting, Imam Ali is depicted with a khaki and blue clothing, and Khidr can be seen with the green color of his innerwear (undergarment) and his black cloak; the same clothing of Muhammad (PBUH), which was discussed in the painting of "The Miracle of Muhammad".

Figure 4. *Al-Khidr coming to meet Imam Ali, Source: Khosfi Birjandi, 2002, 103)*

Among the colors mentioned in the opinions of Ala al-Dawla Simnani, the Khaki color has no place, but in mysticism, color is mentioned by its name, which has two meanings: 1) A cloth in the color of soil considers as humble with high tolerance. (Khaki means soil and humble). 2) It means that the cloth is not dyed and is natural. This color is the color of the soil and of those good people, and it also means modest and humble, which can refer to the characteristics of Imam Ali, and whoever wears this color of clothing must have been dominated by the attribute of endurance. (Kashfi Sabzevari, n. d.).
The undergarment (secondary clothing) of Khidr (AS) is green, it belongs to the subtlety of truth that goes back to the divine heart of human existence. According to Simnani, "Absolute Light, which is the special attribute of Great Truth (God), is needless of reincarnation, unity, connection, and separation, its veil is green. Its greenness is the sign of the Tree of Life. This veil is the veil of the unseen." (Simnani, 1990).
This color in the clothing of Khidr (AS), who came to the aid of Imam Ali (AS), was very aptly chosen by the painter and emphasizes his magical presence and reminds him of his blessed name. In this painting, the sky is painted golden, which intensifies the mystery of this painting.

The robe of the Imam is depicted in black, which is related to the subtlety of secrecy. This subtlety is attributed to the Great Truth, and in the hierarchy of authorities and spiritual states, it is the stage of reaching the position of the Prophet. Because it is the heart of truth and a place for the Holy Spirit representing the divine nature in the world of divinity and corresponds to the status of Jesus (PBUH) in Macrocosm (Modarressi, 2003, 262). As mentioned earlier, the Prophet's clothing was also painted black.

ILLUSTRATION NO. 5: IMAM ALI'S BATTLE IN THE COURT OF TAHMASP SHAH

In this painting, the clothing of Imam Ali (AS) is seen in black and green, the same color that was previously mentioned in the clothing of Imam Khidhr (AS) in the previous painting. This choice of color for Imam Ali's clothing is based on the Shiite belief that Ali (AS) was chosen and is the successor of the Prophet. Unlike other hand-to-hand combats, Imam Ali (AS) did not use his sword, he raised the statue of Shah Tahmasp above his head.

The color green belongs to the subtlety of truth. The seventh and last subtlety refers to the divine center of the universe, on the eternal seal of your individuality; the subtlety that is Muhammad for sure. This subtle divine center that is covering the "Rare gem of Muhammad", is the subtle organ that is the true self and its fetus begins to appear in the subtle organ of the heart, Ibrahim of Existence (Corbin, 2004).

Figure. 5: *Imam Ali's battle in the court of Tahmasp Shah, Source: Khosfi Birjandi, 2002.*

This color also has signs of spirituality and perfection. Green in the subtlety of spirit carries the message "Life is the tree of being" (Simnani, 1990). The manifestation of this light at the end of the subtlety of truth means total annihilation and resurrection of the soul. After that, the seeker stays in paradise and pays full attention to the Great Truth (God) until the essence of truth is manifested on the mystic (ibid.). Green is a combination of the two main colors; blue and yellow, needless of warm or cool properties; The green light of subtlety of truth, as the level of perfection of the seeker, is the only additive color in Simnani's opinions. This color is a combination of the color of the Nafs and the color of the soul; In this position, the mystic will always see the green light on his path which is a sign of obedience (Taheri and Varedi, 2018). Green means stability, willpower, consistency, self-awareness and pride (Luscher, 2002). The black color previously discussed is the subtle light referred to as the manifestation of the

Holy Spirit. black color is sometimes the source that makes the seeker perish and tremble. The black light of the hidden veil is a sign of the end of human subtleties (Simnani, 1983). The level of conduct, after the death of the seeker, ends with the manifestation of hidden light (Light of secrecy). Black light at this stage is the light of Truth. In the final drawings of the Khavaran-nama, the clothing of Imam Ali (AS) is the same color. That is, the same color that was seen in the image of Khidhr (AS). In previous paintings, the clothing of Imam Ali (AS) was seen in blue, red, and yellow, ie the light of the Nafs, heart and soul, respectively. In the same way, when the soul expands, it takes the seeker to the stage of the heart and after the growth of the subtlety, he enters the level of the soul. The characteristics of the seeker are also transcended in this evolutionary transition, and the colors, reaching higher levels, reveal more sublime concepts and a higher personality and shine in a more complete shape and figure.

The lights of secrecy with white colors indicate the transparency of science and the darkness of hiding the truth. In the chromatography of subtleties, the concepts of vitality and courage are yellow, strength and faith are red, and serenity is blue. All these concepts of the three main colors are related in the prominent character of green light - which is the last type of colorful light and the highest stage of transition (Taheri and Vardi, 1399). According to the color choice of Khavaran-nama (Farhad) in the clothing of Imam Ali (AS), he considers him to have vitality, courage, strength, faith, and finally peace. In this illustration, his clothing is depicted in green, which contains all these concepts.

Note: As can be seen in the drawings, the artist uses white only to cover the head of Imam Ali (as) and other saints. White color, as mentioned, belongs to the subtlety of secrecy. The fourth subtlety is attached to a heart that is technically considered to be the secret word meaning or the threshold of super consciousness. This is the position and organ of intimate conversation, secret communication, or "secret prayer" (prayers) and is called the Moses of Existence (Corbin, 2001, 180). The subtlety of secrecy is the level of inner knowledge. Its moral achievement is the induction of knowledge within the seeker; Because "the seeker comes back from there; he has accumulated so many sciences in his heart that he has never read or heard before". Therefore, it's safe to be said that it can be the best choice to cover the head (center of knowledge).

Another point is about the smoky gray color which belongs to Latifa Qalbieh (Subtlety of Satan) and the painter did not use it for Imam Ali (AS). The subtlety of Satan, which is also interpreted as the veil of the devil, is related to the physical and material body of Man. In his treatise "Fath al-Mubin", Simnani states that the deliverance of this subtlety distinguishes man from the animal, and the owner of this subtlety is deprived of the solution of the book and wisdom. If man stays at this level, he will stay away from books and wisdom and will remain in ignorance (Simnani, 1990). At the end of this level, the fire of remembrance occurs for the first time in colorful phenomena; with the lights from left and right to the seeker (Simnani, 1983). Red, white, blue, yellow, black, and green are the successful results of this stage (Semnani, 1390). Therefore, according to the spiritual position of Imam Ali (AS) and other saints, who are distinguished from other people in each painting by the light of the flames around their heads, it can be said that the painter deliberately put this color and subtlety together to depict it on other characters. By doing so, the painter emphasizes the superiority of the divine aspect of Imam Ali over his material and earthly aspect.

TABLE 1. *THE ANALYSIS OF ILLUSTRATIONS*

Illustration of Imam Ali (AS) in Khavaran-nama	**Symbolic concept (meaning)**	**Views of Ala Al-Dawla Simnani on colored halos**
This color is not used in Khvaran-nama.	Subtlety of Mold (Latifa Qalabiya)	Cold and black burgundy
	Noah of Your Being, Latifa Nafsiya ("Soul")	Bright blue
	Abraham of Your Being, Latifa Qalbiya ("Heart")	Red agate
	Moses of Your Being, Latifa Sirriya ("Secret")	Green with white veil
	David of Your Being, Latifa Ruhiya ("Spirit")	Yellow
	Jesus of Your Being, Latifa Khafiya ("Inspiration")	Black
	Mohammed of Your Being, Subtlety of Seal (True Ego)	Green

CONCLUSION

By examining the drawings of Khavaran-nama and paying attention to the colors of Imam Ali's (as) clothing, each of which in each situation expresses the states of his high personality and the features mentioned in the text of this book, which can be adapted to Semnani's mystical subtleties. It can be stated that Farhad - the painter of Khavaran-nama - according to Iranian-Islamic mysticism that has a special meaning for each color, depict the clothing of Imam Ali (AS) with knowledge of the meanings of light and color. Therefore, according to the Shiite theme of Khavaran-nama, the element of color is fully in the service of meaning and the traces of the mystical image of color are evident in these paintings. So the artist's reference to Shiite and mystical sources of color is very likely.

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LIGHTING AND ITS ROLE IN VISUAL ATTRACTION IN INTERIOR SPACE

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Abstract:

The importance of lighting comes as an applied basis for the establishment of a conceptual vocabulary related to the complementary role that gives visual comfort to the recipient (the user) of the internal spaces according to technical treatments related to the process of receiving to create the act of visual attraction as an important lobbying to the shops within the closed space of the buildings that engage in commercial activity in malls particulary, so the lighting is One of the most important design elements through the strength of contrast and resolution to achieve functional reflection.

Keywords: (lighting, visual attraction, interior space, design).

Methodological framework

1- Research problem: lighting is one of the most important design elements that directly affect the recipient, and lighting is characterized by influencing the spaces and objects in the interior space and this is what distinguishes the interior space from other spaces and that light is one of the important elements in visual attraction, after which a system that completes Clarity within the space-time of the

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inner space as it is characterized as a mental and sensory element to provide an aesthetic environment that meets the needs of pleasure within the spatial space. Hence, the researcher finds a cognitive justification for the problem of his research after which one of the important considerations in the design, as the research problem was represented by the following question:
Does lighting and its systems play a role in visual attraction within the interior space?

2- The importance of research:

The importance of this research comes as it is concerned with the study of lighting formations , their elements and systems to bring them with the rest of the interior design elements to a high level of creativity in achieving visual attraction as a whole because of its direct or indirect impact on the recipient in order to reach an integrated design with other design systems, as well. Contributes to the development of the special optical system in the interior spaces of the shops, to diagnose the current reality of the shops in the city of Baghdad, and to know the extent to which lighting achieves visual attraction.

3- Research objective: The current research aims to:
identify the lighting systems and the role of visual attraction in the interior space.

4- Limitations of the search:

Objective limits: Preparing a scientific study on the effectiveness of visual attraction through lighting systems
Place limits: The search was limited to the shops selling clothes in Turkey-Istanbul.
Time limits: year 2021.

5- Research methodology: Adopting the descriptive approach for the purpose of analysis.

6- Define the term:

A- Systems: They are the technical qualities that result in the elements according to a pattern of relational organization within a visual mechanism in which the idea of design is functionally consistent with the role of lighting in the interior space.
B - Visual attraction: It is the power of voluntary and involuntary attention to entice the recipient towards the commercial exhibits.

Theoretical framework

The first topic: Lighting between concept and application:

The concept of light is related to what is generated by the meaning of the natural physical frequency emanating from the sun naturally, and what is reflected from it is known as light or illumination. Its quantity, intensity, or intensity all have an effect on our moods, our mental capacity, and our general feeling of good or bad.

The use of lighting and its employment in the design of public interior spaces and on different spaces to give a different sense of meaning, expression and direction, as "light, vision, and color constitute an integrated trinity, each of them has its capabilities, characteristics, and importance in shaping the interior space" (Ahmed). , 1987, p. 113). And since light has different wavelengths and its reflection on shapes (it produces psychological and physical effects on humans, especially when it is reflected in large quantities from the roofs of buildings and interior ceilings, the use of light puts in the designer's hand a huge magical power) (Al-Bayati, 2005, p. 130(

The lighting and the distribution of its sources did not recede on the ceiling only, as was the case in the traditional design, but the location of the lighting, its sources and its projections became one of the distinguished relations on Western lighting in the designs of public interior spaces on the basis that "artistic creativity and technology go hand in hand. Adding lighting systems to floors is Elegant solutions for modern interior spaces" (Al-Bayrouti, 2008, p. 129).

The great technological intervention on lighting and the emergence of modern technologies led to a change in the concepts of awareness of the aesthetics of lighting through the formulation of new forms and symbols that move the recipient to a new level of aesthetic knowledge, by activating the role of imagination in the installation of mental images of them, so they made "advanced models with wide possibilities." It includes controlling the light beams and the movement of the device itself, and the shapes of the light parameters in the way the designer desires" (Mohammed, 2005, p. 29).

1- Natural lighting: It is the most physiologically appropriate lighting for humans, but it changes and varies with time, season, location, distance from the equator, weather, and climate. Its most important features are according to the following:

A- It provides visual and psychological comfort and infuses vitality and vitality into all beings.

B - Its reflections are unobtrusive and its shadows are acceptable and reasonable, since the combination of shadows and light corresponds to the building from the inside and outside with its unity and openings, giving a sense of homogeneity and unity.

C- It is the most important element that saves free energy.

D- The best source in showing the colors of their strength and quality and giving a sense of clarity and comprehensive vision of the place and the building from the inside and outside.

E- It increases the spaciousness and wideness in the spaces and has many advantages (Al-Akkam, 2007, pp. 111-130).

2- Artificial lighting: It is the lighting that comes from the installation of artificial lighting, and the nature of space lighting is determined depending on several factors, including:

A- Characteristics of lighting structures through their quality, intensity, shape and color of the light emitted by them.

b- Characteristics of the distribution of structures in space in terms of their number, arrangement and location (ceiling, mural or floor).

c- Reflection of the interior surfaces of the space.

d- Space aspect ratios (Al-Bayati, 2005, p. 37).

Thus, we find that artificial lighting in the interior spaces is characterized by the following:

•Its dependence mainly on the quality of lighting installations, and this is a technical issue.

•Its sources are within the designer's control, as he can control their number, intensity, and distribution within space (Al-Muslimi, 2000, p. 68).

3- The importance of natural lighting and artificial lighting:

The importance of lighting in interior design stems from the fact that it represents the axis of the formative structure in the visual structural process of internal spaces, some of which affect the psychological state and others are related to mood as well as the psychological reflection of light and the clarity process, according to the following:

A-Visual function: As it is well known that the human eye is one of the greatest visual systems at all, and without light, the sense of sight is ineffective.

B - Functional benefits: improve human performance in the space

C - Psychological (sensory) importance: Lighting in general creates psychological balance and a sense of safety within the various architectural spaces, especially natural lighting because it adapts to the human eye.

D- Environmental and health importance: It is commonly known that sunlight (daylight) works on a natural environmental purification of the air of those spaces, whether they are living spaces or bedrooms...etc.

E - Preventing cases of visual fatigue and the dangers of accidents due to poor lighting.

F- Reducing the energy consumed and reducing environmental pollution.

G - Economic benefits: result from reducing artificial lighting costs through energy used and maintenance expenses, and help to exploit the void at night, which increases the economic return.

H - Aesthetic benefits: it leads to serenity, so no one is happy in the dark, but the light, especially the good and reasonable light, suggests joy and rejoice (Al-Arian, 2007, p. 69)

4- The main methods or systems for lighting the interior space: There are three main methods or systems for lighting the interior space, as follows:

A - General lighting: It is illuminating the space in a homogeneous and dispersed manner throughout the space, and it can be direct or indirect. It reduces the contrast between the light source and the surrounding illuminated surfaces in the space, and is used to obtain soft shadows and give a larger appearance to the space.

B - Spot lighting: It is lighting specific areas of space to help illuminate certain works (kitchens, library, bathroom, etc.), and here the light source usually shows near (above or next to) the work site itself, and we usually use direct lighting. directive and controllable. In addition to illuminating a specific work site, local lighting provides a diversity of space and is useful in defining certain parts of the space or specific activities within the interior space (Al-Baroudi, 2013, net page).

C- Focused lighting: It is a type of spot lighting, which creates a focal illumination or a repetitive rhythm of light and darkness within a specific space. (Tabal, 2012, p.57)

5- Characteristics of light: Light has many characteristics, the most important of which are:

A- Reflection:- The reflection of light is the basic property of vision. It is the rebound of light rays in the same atmosphere when they meet a reflecting surface. Light falls on objects and then bounces back from them with a different force that depends on their physical properties and their ability to absorb light. The degrees of smoothness or roughness of the material surface affect On the strength of the reflection of the light falling on it, the polished surface reflects the light with a greater force and greater uniformity than the rough surface.

b- Absorption:- Light can be absorbed by the surface, and it is often converted into heat, and the percentage of light absorbed by the surface depends on both the angle of incidence and the light spectrum.

C- Scattering:- It is the separation of light into its colors, so the scattering of white light is separated into the colors of the full visible spectrum by sending white light through the prism

D- Refraction :- The refraction of light is a change that occurs in the direction of the forces of light rays (bending) when they pass through a specific material medium. , p. 85.(

The second topic: visual attraction in interior design:

The interior design expresses the resulting vision of the ability of the interior designer to organize the units and elements using expression tools in new contexts to convey meaning within a pattern of reasonableness, and this meaning becomes a latent force that works on visual attraction within the design of interior spaces, so what is visual attraction? And what are its aspects in the inner space. The general concept of visual attraction is summed up in “the energy realized by the objects and their ability to attract the recipient and activate his sensory reception centers and withdraw his attention. When looking at this result, we find that all the attractive objects possess latent or activated energy to confirm their attractive action” (Al-Azzawi, 2004, page 9), As the visual attraction can be expressed through the ability of (the scene) within the inner space to draw the attention of the recipient and direct him stop or change his course, the attractive inner scene which possesses an abundance of distinctive, sensory stimulating and attention-stimulating characteristics that help direct the recipient towards the source of stimulation. Perception is linked to visual attraction through visual characteristics that work to draw the attention of the recipient, as it can be absorbed within the internal environment and attracted towards it as sources of stimulation.

Through what was proposed, the process of visual attraction is a process of visual stimulation by drawing the attention of the recipient by creating an unconventional (innovative) relationship between the various parts of the interior space and is done by the strangeness of the idea or the many techniques of display as well as the role of elements and relationships in them such as lighting and others as it depends on it In the shops (shoe stores), the visual attraction depends on two important aspects: (the visible and the invisible). The visible aspect depends on the structural forces of the elements and formal relationships, which carry an (invisible) intellectual motivating compatibility towards the contents inherent in it of symbols and connotations of related forms. Meaning, any human product represents a symbol for showing meaning in certain relationships between the recipient and the form within a certain internal environment (Faraj, 2004, page 62). From the above, the researcher finds it important to put forward the most important theories that deal with the issue of attraction, which are as follows:

1- **Theories of attraction:** These theories examine how the relationship between the recipient and the forms arises, and they are:

A- Reinforcement theory: The act of attraction is related to sensory perceptions and the results they lead to, and it is the truth that relates to the characteristics of the design work and the target recipient. Or the events in that environment that are positive associations between us and that form, and when such a link is formed, the attraction towards this thing occurs" (Ali, 2008, pg. 7) Through this theory, our evaluation of any form depends on the extent of positive and negative feelings generated towards it.

B - Complementary Needs Theory: Similarity is the main factor of attraction in this theory. Which indicates "the attraction between the person and the figure occurs when the expressions of the figure match the person's needs, so the attraction and interaction between them is rewarding and satisfactory".

C - Theory of exchange and opportunity for interaction: This theory assumes that the most important factors that provoke attraction between people and shapes is "the factor of spatial or temporal kinship or other factors that can be a positive interaction between the person and the shape, just as the amount of the interaction plays a major role in increasing the intensity of attraction." The papers of (Shaker Abdel Hamid) indicated that the cognitive perceptual schemas are the subjective cognitive structures of the individual that affect his behavior through the distinctive response and that the role of the cognitive perceptual schemas in the theories of attraction towards shapes through tasting them. For example, when we see an architectural or interior design, we activate the cognitive schemes for this work, as some of them are specific to a historical stage to which he belongs, the environment in which he lived, or the artistic, architectural or design style through which the work was created, and insights or special understandings of the artistic and design work occur, i.e. the interaction that occurs between (the subject and the object) (Abdul Hamid, 2001, p. 198). Accordingly, we find that all the theories share in how to build an interactive relationship between the form within the internal space and between the recipient, and the act of gravity is related to the sensory and cognitive perceptions of the recipient from external stimuli related to the characteristics of the artistic or design work on the one hand, and internal stimuli related to the psychology of the recipient on the other hand.

2- The mechanisms of visual attraction stimuli:

Each space has stimuli that serve as forces that work to direct the movement of the eye and the body within the limits of the design environment. These stimuli considered by the researcher as theoretical foundations that can be employed for practical purposes, through which visual attraction can be established in the designs of the internal environment for the space of artifacts, and they can be divided as follows:

First: objective factors:

1- The energy factor in design: an important element in attracting attention, “strong stimuli attract more than less intense stimuli” (Al-Dabbagh, 2010, page 58), as the energy elements in the interior space are considered through color, size, light, strange idea and other factors that arouse attention in design through visual enrichment, which is a characteristic of the design product that possesses an abundance and an increase in visual characteristics through mechanisms of novelty, ambiguity, diversity, contrast, and richness or enrichment, one of the basic conditions that work to attract the attention of the recipient.

we find here that the strong stimuli that have a direct and effective impact within the interior space and through which the designer seeks to reach the highest expressive ability of visual attraction, for example (the employment of a central lighting unit or a monument that dominates its appearance in the space center)

2- The movement factor: the elements that appear with real or imaginary movement characteristics “gain an attractive value more than the static elements, as they are an attractive and visual pull factor that raises interest” (Mansour, 1986, p. 114). From the foregoing, we find that through the textualization of the constructional determinants through repetition or gradation of geometric shapes, they achieve a result of kinetic illusion, and moving furniture units can be used, such as small mannequins (clothes, shoes, etc.), as they work to attract the attention of the recipient.

3- The nature of the stimulus factor: the living forms are more attractive than the non-living ones in that they give a kind of privacy, movement and attraction within the inner space with the outside

4- The factor of organization and arrangement: “Man, by nature, tends to get attached to organized forms in a way that is compatible with his perceptions and nature and makes it easier for the recipient to perceive them" (Abdullah, 2008, p. 169). As the elements or shapes that are organized according to a specific style tend to attract attention more than other elements that seem disorganized or scattered, where a group (clothes or shoes) representing a particular style can be placed in a unit of presentation whose form is of a particular style or category, where this diversity of organization leads to enriching the space with a kind of fun, suspense and excitement, opposing the principle of the formal system, which is characterized by monotony or boredom.

5- Unfamiliar or exotic factor: Interior design is no longer just aesthetics or a formal or chromatic agitation for the designer's emotion, but rather aims to address the mind and motivate the act of imagination of the recipient, i.e. "a process of building and creating new phenomena through changing the mechanisms of systems and relationships and inventing new non-dominant formats to achieve attraction." (Haidar, 1996, p. 136) through "the structural reorganization of the interior design elements according to innovative methods based on surprising the recipient through innovative design treatments that make the interior space an integrated aesthetic formal system with unfamiliar artistic and intellectual dimensions" (Khazal, 2009, p. 6). Thus, the peak of the exception is formed in those design structures, and this is what we strive for as a design goal on the one hand, and the value of penetrating the effectiveness of time and space, which is called creativity and future Orientalism on the other hand. This is what we find in the seven wonders of the world, as it is the creation of God, who dealt with the idea, matter and material to form an exception in his time for design features, and attraction can be achieved through a familiar idea, but it is embodied within a new combination of material, size, color values, or modern lighting techniques.

From the above, we note that the goal that the interior designer seeks to achieve is an exotic expressive goal, and this is what leads to it being understandable and having a specific meaning because it has technical significance and meaning at the same time. New stimuli that enter a person's experience attract him more than familiar stimuli. The manipulations that the designer performs to achieve a state of differentiation by synthesizing or organizing the units of forming the design environment. The penetration of everything that is familiar within an unusual pattern is one of the unfamiliar aspects that the designer uses to achieve attractive stimuli within the interior space.

Second, subjective factors:

1- Factor of needs and motives: "they are important factors in attracting attention because man often seeks to fulfill his needs and motives. The designer must realize in his design what are the elements or techniques that raise those motives or needs (material or moral) and seeks to achieve them in his designs. (Mohamed M., 2004, p. 207), as time adds its value to many of the purposes used by man and highlights its historical value by highlighting the scarcity factor in it, and thus it acquires the attractiveness of its rarity and its temporal and historical value, as the designer intends it when he designs and that is due to its close relationship to relevant events and processes connected to a person's feelings and memories.

2- Related to everything that is in harmony with it or similar to it “as the designer exploits these interests and tendencies to turn them into working units within the overall design system, the designer was able to employ in the design of the space interface some tendencies and trends (Abdullah, 2008, p. 170).

3- The factor of the level of motivation or internal arousal: “The designer must be accurate in choosing his design within the appropriate time, place and environment.” The intended attraction is the one that evokes pleasure and beauty within noticeable limits so that it makes the recipient feel that it is useful to perceive it or contemplate it.

(Description and Analysis)

Sample No. (1) A store selling clothing Turkish brand with European style

1- Sample Description:

Katia Boutique in Istanbul is one of the most famous names of clothing stores in Europe within Turkey in Istanbul. This boutique is located specifically in the Hasopulu passage, and if you visit Turkey, you must visit this boutique before leaving Istanbul. This is because it specializes in selling unique types of clothes in the old Turkish style. This boutique can also be visited as a kind of visit to the archaeological, cultural and old-fashioned monuments in Turkey.

The image of the sample (1) shows the main space of the boutique (KATIA)

The central type of movement was used in which the furniture for sitting was distributed around it as if it was a resting house surrounded by exhibits from all levels of displaying women’s clothing. A table was placed in the middle of the sitting area as if it were a modern house that combines eastern and western frescoes, and for its various levels in the ceiling it was allowed to design lighting systems according to the tracks of the rails hanging from the ceiling to carry the artificial lighting as if they were headlights with strength and space that spread throughout the space, in addition to the multiplicity achieved as a result of high luminance in contrast to achieve strong clarity that refers us to a pattern of visual attractiveness as an effective contribution that is reflected on the recipient and echoes with the force of spreading as degrees uniform luminous value.

This store is distinguished by several rooms and is characterized by the view of the second floor on the main courtyard, which makes the recipient feel the possibility of linking the reality of the homes in Istanbul and that place, taking into account the distinction of some spaces in that they contain (Cleary) exhibits of these women's clothes.

This space also extends with an area of 10 m x 10 m, with the presence of other spaces such as rooms overlooking the main courtyard for places of change and makeup, a studio for visualization and other services.

2- Sample Analysis:

A - Units of lighting in the interior design of clothing stores:

Those artificial lighting units that were employed to achieve an aesthetic environment that meets the needs of pleasure and a sense of familiarity. Hence the interest in improving the lighting of the interior spaces (shops) in terms of quantity and quality, which makes architecture and lighting a coherent system that meets the direct needs of the occupants and gives their environments a charming atmosphere, and advanced lighting was used with a modern technology known as (LED), and the lights are hanging from the ceiling and directed downward so that they do not affect the eye of the viewer or the customer, which allows a focused view of the clothes and objects.

The use of the white color for artificial lighting to create appropriate glare and rays as a system to provide a suitable and comfortable environment that gives the overall space a kind of luxury and a formal way, and we note that through spaced distribution in a regular pattern, a kind of hidden lighting was provided, which effectively contributes to adding one degree to provide calm and visual illusion specified to simulate photolysis. The space is completely isolated from sunlight, as it does not contain window openings exposed to the sun or any type of natural lighting, as it has been completely relied on artificial lighting, due to the type of construction and composition of the building and when using modern technology techniques and methods by hiding the lighting that mimics natural lighting and exchanging it with smooth surfaces on one side, and on the other hand, the white of soft surfaces matches with artificial lighting, which gives the recipient the feeling that the place is surrounded by openings for the entry of solar rays.

B - Design characteristics of lighting in the interior space:

The lighting formation methods were available to express the nature of the space and show its features by distinguishing the size of the lighting units and the furniture components employed in a harmonious manner, granting the lighting systems to be prominent from the ceiling and hanging from it, to be directed towards the display units for clothing to give a special and aesthetic style and work to reduce the shadow as much as The possibility that is formed due to the micano inside the space, which is reflected in the display units, and this depends entirely on the ceiling-hanging lighting system in a large proportion and a good expansion, which prompted the designer to dispense with the wall units so as not to conflict with the layout of the exhibits, which led to their use in small proportions and in colors close to gray and beige that simulate the color of the sun and the work to give a high light intensity that provides a solar glare, which does not affect the recipient's eye due to the use of wall lighting units that are hidden in a smart design behind design areas consisting of construction materials such as gypsum board, which is directed to the ceiling and reflects the shadows on it in varying ways to give an aesthetic design and achieve its functional goals as in the form (1-D), either inside the display and storage units (the windows), in which the lighting used is directed downwards and of medium size, which is of a linear design to give an even and distinct area of light and shows the objects to be displayed in its door an image and aesthetic to attract the attention of the two delegations to the space.

C- Perception and the mechanism of attraction in interior design:

The values of perception and the mechanisms of attraction appear by placing the foundations of design in the interior space to provide a psychological feeling for the individual and give psychological comfort and a sense of calm and welcome through design units within the space, the most important of which is how to illuminate the space and the appropriate choice of colors and method of employment and this is what the designer sought through the use of the color (mixed beige with summer atmosphere) in the hidden lighting to give a sense of calm and this is one of the features of natural lighting, but because of the location of the space and its distance from the sources of natural light, the designer tried hard to provide even a small percentage, even if it was by simulating sunlight, and this led to the excessive use of the color (white) even on the floor, which also mimics the color of sand and desert, which symbolizes this color of welcome and hospitality, but it is not good that it needs continuous cleaning because it suggests dirt as mentioned because of simulating the nature and environment of Istanbul.

The strangeness in the design also played an important role by providing unfamiliar elements with regard to the place and time of the design, where we notice the presence of smart clothes display units (mannequins) directed by ceiling lighting units, which gives beauty and function that attracts customers to and which excites the arrivals through the view Innovative modern design and smart handling of the designer by employing his design elements with precision and a style of presentation of the highest ingenuity to draw the attention of everyone who passes in front of the space and attracts him to the interior.


Figure (2)

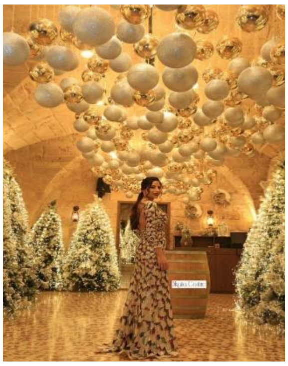
Figure (3)


Figure (4)

Figure (2,3,4) The pictures of the boutique show the color values achieved by the artificial lighting systems and the surfaces employed in the interior spaces. Source / Read more on Maqal.com: https://mqaall.com/clothing-store-names-in-europe

Sample No. (2) Hermes store in Turkey - Istanbul.

1- Sample Description:

One of the agencies of the well-known French brand Lacoste, which was established in a complex of several countries

Founded as a French fashion house, and now it is a high-fashion clothing store in Turkey - Istanbul, occupying an important space in the global and European market in particular, so it was distinguished by the use and employment of artificial lighting with a contemporary look that fits with the warm summer atmosphere. The store takes an engineering shape closer to a rectangle, as one of its front sides is characterized by its facade extending to the sides of the street with three directions. This calls for the use of a linear kinetic system similar to the letter (U), which came according to a design between the inside and the outside with the same treatment in lighting degrees and as a simulation of hot lighting, degrees and values of sunlight (orange) varying values in some aspects that focus on some of the exhibits of fashion.

Figure (5) *Sitemap of the Hermes store in Istanbul,*

source/ https://www.emaarsquaremall.com/ar/istanbul-shopping-center/luxury/hermes

Sample analysis:

A - Units of lighting in the interior design of the Hermes clothing store:

We note that the interior design of this space has shown an integrated system of lighting in a large proportion after it was relied on a number of types of artificial lighting to diversify the places they occupied, as it was relied on two types of ceiling lighting, which is the hanging and hidden lighting from the ceiling, which formed a system with display units and according to what suits it from the method and style of presentation followed in the design that coordinated its forms according to wheels or libraries in the manner of suspension, and this provided aesthetic dimensions and balanced performance through which the design sought to focus on lighting that achieves attractiveness to the varying value frequency with a high contrast degree of orange, and in the style of lighting the chandelier in a modern and new way and with a new technology, which is focusing with white lighting to achieve a degree of color attraction, which is determined according to functional and aesthetic considerations, and its role was limited to providing aesthetic space by visual attraction, taking into account the provision of hidden lighting in display units and transparent glass storage, forming a linear system with LED technology systems to give Appropriate glow adds beauty and realism to stimulate the feeling of the recipient through the clarity of the display and the light glow.

Figure (6)

Figure (7)

Figure (6, 7) Pictures showing the storefront and the main entrance.

Source: https://onlinestores.outlets2022.ru

The determinants of the space, which is located close to the open interior corridor, which gives a sufficient amount of light and distinctive radiation, giving a distinct addition to the system as a whole to provide psychological calm and comfort for the individual, gave a kind of contrast between the uses of natural and artificial lighting to give an appropriate visual attraction that achieves a reaction at the recipient and attracting his view into the space through the reflections of light on the smooth surfaces of the walls of the space.

B - Design characteristics of lighting in the interior space:

The design characteristics of the lighting came in ways that express the nature of the space as a store for exhibits of fashion and the orientation of the building helped to achieve a treatment between the interior and the exterior through the use of colors and depending on the transparency of glass and taking into account the style of the exhibits and the choice of white color in artificial lighting to achieve focus in some aspects of the determinants in the interior decoration to give the character of unity and harmony as well as the effectiveness of white color systems that are in balance with the rest of the colors and take into account the function of space in displaying clothes of different shapes and colors in which attraction and this provides the color of the sun through the natural lighting available from the entry of sufficient sunlight that mixes with the white color provided by artificial lighting , taking into account the glare from the intensity of the radiation that is provided by the units of lighting systems, as it is noted the use of lighting of medium sizes with the ability to cover the area of the interior space through the contrast in the multiplicity and diversity of artificial lighting sources, their size and the way they illuminate the space.

C - Cognition and the mechanism of attraction in interior design:

The mechanism of attraction and cognition is showed through a balanced design relationship to bring about a reflection and effectiveness of the recipient towards a sense of space by using the white color and orange surfaces because of their mental and psychological effects on the recipient, as it creates joy, comfort and focus that gives the recipient a sense of space more than its actual space and gives monotony Because of the ease of reflection of shadows on the ground, it also achieves unfamiliarity in orange tones in order to increase attraction and give space a strange pattern and realization events for the recipient in order to achieve awareness or attraction and the availability of stimuli or vocabulary that draws attention with design data with a high degree of visual stimulus that must be provided and the function of space.

Figure (8)

Figure (9)

Figure (10)

Figure (8, 9, 10) the pictures show the storefront, one of the spaces, the decoration of the display and the strength of the lighting.

Source: https://onlinestores.outlets2022.ru

Sample No. (3) Collezione Store in Turkey-Istanbul

1- Sample Description:

Collezione is the largest company in the Bakirkoy in Istanbul. It is one of the most important companies in the clothing sector. It is characterized by large areas and has a variety of different clothing displays for all age groups and for both genders. A network kinetic system was employed according to the requirements of distributing the interior furniture of the space, which gave the space a kind of comfort and generality and no restriction in the path of the individual's movement within the space so that the space did not appear to be any formal considerations.

Figure (11) *Collezione Storefront*

Source: https://www.turkpress.co/node/18444

2- Sample analyzing:

A - Units of lighting in the interior design of the space:

The space showed design contrasts for lighting that led to the diversity of lighting sources that were formed between natural lighting and artificial lighting, as well as technical diversity and diversity in how to illuminate the space through the use of types of artificial lighting, in which the use of ceiling lighting units directed according to the requirements of the display was formed linearly, which purifies prominently from The ceiling to be directed and according to its functional and aesthetic function and the appropriate method of presentation, and this gave the designer a sense of insufficient units in lighting the space, which prompted her to employ ceiling lighting units recessed in the ceiling determined by purely functional data as it was relied on lighting and providing sufficient light for the space only showing any Aesthetics at all.

Enhancing the space with plastic suspended ceiling lighting units in the form of modern and contemporary lighting through specific design unit in an aesthetic and innovative way through the use of wooden panels in the structural form of the unit and directing the lighting in multiple directions to give movement and spirituality to the space and add the character of aesthetics and function to the space as a whole, as it is noted that some of its units are directed sideways To simulate the wall lighting that is completely non-existent due to the reliance on directed ceiling lighting, which led the designer to dispense with the wall units, as he clarifies this, as well as the constructional location of the space, which provides sufficient natural lighting through the use of glass in the facade of the store that allows the passage of available sunlight to the space as a whole, which It gives a sense of excitement, movement and a sense of luxury, modernity and development in space by mixing the color of artificial lighting and the color of the sun that is provided through sunlight and the covers of some chandelier lighting units, which were formed with each other using a degree of red and also a degree of white.

B - Design characteristics in the interior space of lighting:

The effectiveness of the design characteristics of the space came through the colors used to employ them in an unfulfilled manner due to their design considerations through the use of more than one color in the space, as it is noted the diversity in the use of colors (gray, brown, yellow, white and red, which made the space take another design direction as it appears to be a selling space (play) Children) as the color design was not taken into account at all, that the space originally deals with many colors and color gradients used in clothes, which is illustrated by the model (3-D), and the lighting has provided the glowing white color that provides a lot of delusion due to its intensity and focused brightness on display units Also, the use of special covers for lighting units in different colors, such as red and zero, showed the use of lighting units in an exaggerated manner and the lack of attention to the size that suits the design and functional requirements of the space, which caused weakness in the system, which the designer tried through the multiplicity of lighting units and the use of units that cause high radiation intensity that affects the eye of the recipient, which leads him to feel uncomfortable inside the space, which was directed towards the main door of the space, which means that it gives intensity and high glare when entering the customer, causing damage to the eye, which may push him not to look enough and pass the exhibits of clothes and others and not pay attention to what It is displayed, which distances the recipient and does not perform the function of lighting and attracts the attention of the recipient.

C- Cognition and the mechanism of attraction in interior design:

The sense of space is manifested through functional expression through the vocabulary that was employed in the space and the state of consistency by choosing the appropriate colors that give calm and psychological comfort within the special design of the space, whether the colors used in artificial lighting or the colors used in the walls and ceiling are white with a soft texture to achieve communication and conformity between the exhibits, which is reflected positively on the perception of the recipient, which is a mechanism for delivering a message of the openness of space, and this leads to achieving visual attraction, starting from the facade and ending with the clothing displays, taking into account the strangeness of the design and the unfamiliarity in the distribution of lighting as a visual stimulus with a design aesthetic that sings the space from the inside from the need for sound stimuli or Display screens or smart mannequins and other stimuli that are available in a few units to show aesthetic meanings that give a distinctive performance function to the space to achieve continuous attraction to the recipient.

Figure (13)

figure (12)

Figure (16) figure (15) figure (14)

The figures (12-16) represent the multiplicity of space and indicate the lighting systems and their internal distribution.

Source: https://www.aslisevgi.com.tr/portfolio/collezione-antares-avm-magaza-tasarim-ve-uygulama/

Chapter Four (Research Results)

Research results: The results of the research showed the following:

1- The functional dimension of the natural lighting systems has not been achieved because the designs of the shops are located within the interior space of the building in all the models, in addition to the determinants of the glass front facades.

2- The design characteristics of lighting showed according to a diverse organization that varies from one model to another based on the effectiveness of the distribution of artificial lighting through visual attraction as a distinct system through the effective use in the exchange of color values of lighting and the intensity of the light reflected on surfaces with different textures, which reflects a state of clarity for the exhibits within a monotonous distribution with a homogeneous rhythm.

3- The apparent weakness in the level of perception and its mechanisms in some aspects of space design, which reflects the lack of comfort and a sense of visual closure that causes a defect in the attention process or what provokes the individual inside the space, taking into account the lack of employing sovereign stimuli within the space.

4- The aesthetic dimension was not achieved in the treatment of lighting systems in focusing on certain points in the optical polarization, which indicates the existence of a state of unfamiliarity between the functional parts (shelves) and luminance levels.

Second: Conclusions: Based on what was stated in the results, the conclusions were built as follows:
1- The higher the contrast of the lighting, the more the amount between the design elements and the clarity of the shapes is achieved, the contrast of the design is beautiful and vibrant, especially in the colored lighting, which is a very important thing to achieve visual attraction and voluntary and involuntary attention.
2- The factors referred to by the formal theory through homogeneous relations between the stimulus and the response are based on the basics that must be available in the inner space to achieve its functional goal in visual attraction and achieve the response dimension.
3- The nutrients of the perception of elements are related to the effectiveness of visual attraction on the strength and compatibility of the perceptual and mental perceptions of the recipient with what enables him to interpret the results of the apparent structures of the visual attraction and shows the other supporting elements.
4- Artificial lighting systems are one of the structural elements that provide an effective presence in achieving the paths of visual attraction and show the rest of the elements supporting it.
6- Accuracy in addressing the level of the visual formal system through the good distribution of lighting will be greatly reflected in achieving the premises of visual attraction in the interior design.

Third: Recommendations: To achieve the goal of the research with the stated results and conclusions, the research recommends the following:
1- Relying on smart lighting systems and taking into account their performance and functional aspects within the internal space of the shops as they are formal headlights that reflect the level of goods.
2- Benefiting from international experiences in interior design, optimum use of economic lighting, and adopting clean sustainable energy as the best way to achieve display and display products and goods in the space in the best way.
3- Taking into account the design of the facades in the stores by paying attention to the way of lighting and what is reflected in the lighting of the facades in general to draw attention and achieve visual attraction.
4- Adopting the use of aesthetic formulas for the characteristics of space formation, such as unity, balance and diversity, because of their high ability of visual attraction.

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IMPLICATIONS OF DIGITAL INFLUENCE IN CHILDREN'S THEATRE PERFORMANCES

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Abstract:

The theatrical show represents the most employed arts in other arts and of the most experienced arts that have gone through stations and transformations of technical and artistic development alike, most of which are in search of methods and mechanisms to form new spaces for theatrical performances for what characterizes the theatrical space as a living space in processing, dealing and receiving at the same time and in order to renew the industry of its artistic speech, the researcher worked to track the construction processes and industry of the digital influence and employ it in the theatrical presentation dedicated to children with the calculation and consideration of similarities and differences in generating time, rhythm and control in the speed and movement and technical design unit of the presentation with its elements in order to reach the nearest area of artistic integration in the manufacture of a theatrical show for children, the researcher formulated and crystallized the problem of research that she is working on in order to find solutions and results and conclusions starting from hypotheses and theoretical studies and application was the specific question of the problem of research as follows: What are the

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mechanisms and treatments for shaping the digital influence and employing it in the theatrical performance at the Children's Theatre? The current research aims to:

1. Introducing the digital influence, its industry, then employing it and how to integrate it through the directing processing of the theatrical performance in the children's theatre.
2. Identify the possible works of the digital influencer in the theatrical presentation of the children's theater.

The research community is made up of a global theatrical presentation as a model of the analytical sample, which relied on the digital influencer and the method of recruitment and work in the children's theater, so the choice was made on the descriptive approach (content analysis method) as it is the most appropriate scientific curriculum to achieve its goals.

The research produced a set of results, the most important of which are:

Technology in the digital influencer industry is a vast experimental area in recruitment and visual work because of its expressive potential and power that can shape the presentation in a more interactive and aesthetic way through the possibility of shaping and developing the digital influencer.

The most important conclusions are: digital technology offers all the possibilities in producing a homogeneous and integrated pictorial unit between the manufacture of the digital scene and its employment in the theatrical presentation prepared for children.

Keywords: (Digital Influence - Children's Theatre - Art Education).

Research Introduction

First: the problem of research and the need for it:

The theatrical discourse consists of a semantic system to form the text of the presentation consisting mainly of an optical element and an audio element that overlaps in diverse relationships and a semantic, metaphorical or reciprocal complex, forming its deliberative discourse as an artistic discourse developed through the long history of the art of theater, whether at the technical level or the artistic level, technical progress has had a fundamental and direct impact on the progress of the theatrical discourse industry provided to the child in particular and the art of theatre in general through the employment of (digital technology) to provide a special creative vision By producing theatrical artistic discourse and delivering it to the recipient, it was important to have its age in a distinct way and manner.

Excellence here does not depend on the use of digital technology in the manufacture of digital influencer and turn it into a factor of visual or audio attraction only, but is to employ aesthetic awareness and present it in a way that coincides with development and technical progress and exploit its potential and apply it to the stage, which is considered the intermediary between direct reading and artistic vision provided by the manufacturer in the production of the theatrical presentation of children in a creative way and method.

In this sense, directing processing in the employment of (digital influencer) in particular requires a special skill in planning and implementation to integrate and overlap the technical and technical aspects to present the new formal formulations that depend in their composition on the digital influence and the formation of a whole new digital physical medium in terms of processing and dealing in the image and sound formation to produce a theatrical presentation that is dazzling in the child in advanced and new formats.

The researcher formulated and crystallized the problem of research that she is working on in order to find solutions and results and conclusions based on hypotheses and theoretical studies and application, the specific question of the problem of research was as follows:

What are the mechanisms and treatments for shaping the digital influence and employing it in the theatrical performance at the Children's Theatre?

Second: The importance of the research:

The importance of research lies in providing a study as an attempt to provide usefulness by introducing theoretically and practically the technical element and the technical element and standing at digital technology and digital influence as the researcher seeks to present her research and show its importance to achieve the desired benefit as follows:

1. Benefit researchers, scholars, art students, technicians and technicians working in the field of children's theatre.

2. Benefiting audiovisual production companies in the public and private sector with the possibility of establishing and establishing (a private children's theater based on digital technology) such a kind of shows that adopt the digital influence as an attraction and innovation, which will form financial returns through the production of shows and their industry to attract the child segment.

Third: Research objectives: - The research aims at monitoring and determining the ways and mechanisms, whether artistic or technical in the manufacture of digital influencer and employing it as an organic element in the theatrical presentation in the children's theater and as follows:

3. Introducing the digital influence, its industry, then employing it and how to integrate it through the directing processing of the theatrical performance in the children's theatre.

4. Identify possible works for the digital influencer in the theatrical performance of the children's theatre.

Fourth: The hypothesis of research: - After the major digital technical developments that entered into the formation of directing readings and the manufacture of the text of the theatrical presentation visually and auditorily, the hypotheses of research were generated by the researcher as follows:

5. Introducing digital technology into the digital influencer industry in the structure of the theatrical performance in the Children's Theatre.
6. Provide an analysis of a theatrical show that adopts the digital influence in its industry and the formation of the text of the show in terms of form and its connotations through the work of the digital influence artistically, technically and aesthetically for the performances of the children's theater

Fifth: Search limits:

7. Spatial borders - Netherlands.
8. Time limits - 2010-2011.
9. Objective limits - digital influencer and its work in the children's theater.

Sixth: Defining terms:

1- Indication: It is the process of forming the text of the theatrical show and obtaining as many meanings and ideas as possible by revealing the relationships between functions and functions by analyzing the way the dal and the meaning are linked and the influence of digital technology in its formation in the theatrical presentation in the children's theater.

2- Vocal influences:

These are audio or visual formations or combined together and manufactured in particular to form a distinct attraction and special specifications or combined together, which are used in the theatrical presentation for the purpose of achieving environmental conditions that contribute to the formation of the text of the theatrical presentation.

3- Digital technology:

These are the mechanisms, methods and methods that are employed through digital works, whether they are special devices and equipment or the use of software based on the language of 0.1 in the production and manufacture of effects in the theatrical presentation.

4- Digital Influencer:

It is the process of making and shaping the visual or audio influencer by employing the work of digital technology in the theatrical presentation dedicated to the child.

Theoretical Framework

The concept of semantics:

There is no doubt that the theatrical presentation as a general concept and as branching concepts and especially has been subjected to transformations and changes in multiple and important stations in the process of producing theatrical artistic discourse, the most prominent of which are the theories and thesis that benefited the theater as art and the method of the mark and the process of pampering in it were the thesis (Susser and Pierce) from which the process of the theory of marks and then the thesis of Kauzan and the School of Prague, the process of development that took place on what the theatrical show in general and the performances of the children's theater in particular Which transformed him from speeches and poems delivered by someone who is the actor on (viewers) turned into The semantics are from verbal to verbal and photographic connotations where interest in the image and its compositions began to be more and broader with requirements and mechanisms worked and presented by many workers in the field of literary speech, theatrical speech and artistic and cultural discourse in order to convey a certain idea or meaning by sending a message of meaning meaning "The speech is all meaningful" (Daniel, 1985, p. 124)

This process itself generates marking pampering, the process of pampering requires a single indication at the very least that is included in the mark on the stage in the theatrical presentation, and over time there are studies to build marking systems and classify those systems through the use of marking studies and pampering systems in order to obtain meaning, and this is what Susser called through his own opinions and vision and his theory of the marking system as a formal and the mechanism and determine the way the brand is formed and operated and pampered, the process of indicative pampering is "its purpose" Only if it is part of a decreed system and its meanings are derived from the framework of this system as a whole." (Colin, D.T., p. 16)

Susser has worked to make semiaic science beyond the tongue to different new regions, considering that all human communication processes, whether pictorial or verbal, need a medium and language here that constitutes the medium and the way in which we can transmit any private or public expressive activity in accordance with regulations and laws. (Edmair, 1977, p. 4)

These laws and regulations were formed on the basis of the impression and vision (Susiri) of the mark as it is a relationship between D and Medal to produce a sign as this relationship is the one that links the form and the content to be the mark in its full form and become part of a linguistic system that can be a medium or a way to convey a certain expression of the idea between two sides.

Susser attributes that the relationship between the elements of the mark that he divided into the dal, which is the expression, and the first part of the mark has a word or image, and this is the physical visual or auditory formation, and the physical entity of the mark is the visual and tangible part, i.e. it represents the form, but the second part that is expressed is the idea or meaning, which is the invisible part of the mark where the relationship between the function and the meaning is an abstract relationship according to what is agreed between the sender and the sender. "It's a basic relationship or a link between the dal and the dalloul, but it's an agreed cultural bond, and they're connected to something without separation, like they're two sides of a white paper," he said. (Colin, D.T., p. 18)

The process of cultural cohesion is directly related to the references and compression structures that make up the entity of both the sender and the recipient and interfere with the construction and installation of the mark and then the process of semantic generation of the mark in its kidney.

The mechanisms for forming the digital influence: there is no doubt that life is a continuous and continuous change through discoveries and inventions at the level of equipment, techniques and methods of industry and work, whether at the level of life in general or art in particular and therefore the process produces multiple and different styles and patterns due to the nature of the complexity of the essence of man seeking renewal and constant change and in tracking this process at the technical level we find it has gone through many stages depending on difference and change and this Change and transformation is itself a culture with multiple aspects, dimensions and levels that affect art as a achievement and the recipient as a recipient of the artistic achievement, if in general art as a general form and theater as a special form "cannot be imagined independent output, the theater itself is an installation within which different branches enter and this is what constitutes its power that cannot be replaced." (Jean-Pierre, 2004, p. 65)

The directing treatments in the process of embodying the form and linking the content in it in new and modern ways and mechanisms through which the digital influencer is made by digital technology that transformed the stage and presentation into an environment of different specifications and characteristics "The meeting here is a symbolic meeting that occurs between the imagination of the viewer (the transformation of the viewer, his symbolic imagination) and the intangible things imagined, but on the stage the looks meet within the framework of a comprehensive vision subject to the framework that each viewer puts in the work presented through the audio and visual means, they are affected by the means of audio and visual In many of the views adopted by the viewer." (Jassim, 2011, p. 35)

The development of digital technologies leads to the development of the works of the elements of the show, whether audio or visual, and this therefore leads to the development in how to build the display environment based on modern technologies and the new medium, whether in whole or in part in order to produce and will the excitement of all kinds and patterns in the process of searching for a greater and stronger interaction of the recipient with the theatrical presentation.

The formation of various elements of the presentation through the various media to form a general and larger medium offers the process of formulations and visual and audio formations precisely controlled and rapidly changing on the stage during the presentation and can make the process of change imperceptible and mechanical so that the receiver remains tight and attracted to the display by generating the shape and producing both space, space, space, movement and kinetic composition.

The Reflection of the Digital Influencer in Children's Theatre Performances

Digital Effects has opened the door to the wide potential of artistic craftsmanship, whether it is a designer or an outlet that adopts and employs digital technology to produce different and varied effects, as this process was until recently achievable in the film only, in addition to the waste of time caused by its implementation in the laboratory, and the high value of production, since although working on the device of digital video effects is not simple from a technical point of view, it works according to a simple principle It is possible to grab any of the videos at any time and then convert them into digital information (Bassiouni, 2013, p. 10).

The importance of digital effects can be as follows:

1. An attraction for the recipient through the interactive ego with the performance of the actor in the children's theater performances.
2. Improve the overall shape of the display. (Rashid, D.T., p. 141)
3. The use of effects is an element of competition between the mechanisms of theatrical performances.
4. Helps the director with different performance options that fit the psychological styles with the actor.
5. Digital effects help to clarify and enrich meanings.
6. Digital effects help accuracy and are also a means of entertainment and intellectual enjoyment (Jassim, 2011, p. 12)
7. Digital effects are "an organized knowledge process in which ideas from their sensory world to physical existence are transformed into a series of database-based digital computer processors, with the help of digital design software, to the accomplished." (Mahmoud, 2011, p. 4)

The effects create the environment in which the actor works, as the environment "all the elements or living data that surround human beings". (Al-Jawhari, 1995, p. 40)

"Through digital technology, the director can design the actor's clothes and color tones, and depending on the background colors in front of them, they provide the best help through their ability to design, review and replace clothes according to the appropriateness of the story time and the life of the character." (Qaisi, D.T., p. 154)

The digital boom has greatly influenced the mechanisms for producing theatrical performances in general and the children's theatre in particular, and has even significantly affected the use of traditional techniques and influences, as virtual landscape décor technology has been adopted. (Ali, D.T., p. 688)

A set of elements and tools to be used to generate digital effects are:

1 Use sensors for movement.

2 Use to control movement.

3 Use the Adrak system for the shape as a means. (Ali, D.T., p. 690)

Theatre is "a subject of influence in the reality of digital technology, as the community of arts and literature, and the forum of social sciences, it is a practice of socialism, festive communication, a communicative medium, and a source of interactive speeches in a way that is, aesthetically and expressively, " (Al-Kuwaz, 2016, p. 15), as theatrical creative discourse and theatrical productions "are adopting (...) On modern technology by computer, which is the only technical machine capable of creating new forms that are unfamiliar, it is based on a hypothesis and not on the basis of a material that exists in reality, and the computer has the ability to cancel the truth and create instead a new material that becomes essentially the truth." (Al-Kuwaz, 2016, p. 16)

Theoretical framework indicators: The theoretical framework produced a number of indicators that the researcher will use in the research tool to analyze the sample chosen.

1. Digital technology works in the theatrical presentation according to the method determined by the technical and technical team.
2. Digital technology offers high potential in the manufacture of visual and audio influencers in theatrical presentation.
3. Digital technology can operate at a variable or fixed ratio of one or several offers and as required by the offer.
4. Digital technology offers its own techniques in how to compensate, develop, add or install visual or audio formations in the theatrical presentation.
5. The digital influencer can transform the environmental transformation of the theatrical show with the viewer pulling in a more dramatic way, contrary to the traditional way of changing time and space on stage.

6. Semiology is the science of study, regardless of its type and its continuity, which means that the cosmic system with all its signals and symbols is significant.
7. The significance is the power that the artist has through the idea and from the formation of the elements and therefore the indication is able to translate the formal meaning and is associated through the knowledge of the recipient.
8. The significance depends on clarity and simplicity in understanding the meaning of the work, as the work drops visible forms in this sense, the product of which is a projection of the artist's idea in some forms that can be perceived.
9. Digital effects help the director to make different performance choices that are commensurate with the psychological styles with the actor, and the effects create the environment in which the actor works, as the environment is all the elements or living data that surrounds the human being.
10. Technological development has a major reflection on the theatrical scene, contributing actively to all children's theatre performances.

Previous studies:

Study: Emad Hadi Abbas Al-Kuwaz: Tagged with "Digital Theater and Light Alternative in theatrical presentation", Unpublished Doctoral Thesis, Baghdad: Baghdad University Faculty of Fine Arts Department of Performing Arts, 2016.

Search Procedures

First: The research community is formed from a global theatrical show as a model of the analytical sample chosen by the researcher in proportion to the contents and topics of the research that relied on the digital influencer and the method of cleaning and working in the children's theater, as the current research community included performances in European theaters, as the number of three theatrical performances for children as described in table (1).

Table (1) *shows the research community of performances for the festival*

to	Theatrical performances	Written and directed by	Year of the show
1-	Tarzan	David Henry Hawnke - Bob Cropley	2011
2-	Cinderella	June Over	2011
3-	Belle and the Beast	I'm Hold.	2010

The researcher deliberately chose to display Tarzan.

Research sample: The research sample consists of a single growth in which the digital influencer was available in the children's theater and the sample was selected in a deliberate manner for several reasons

1. Provides visual and audio works for the digital effect.
2. The play is specially designed for children.
3. The work of the digital influencer in the presentation is compatible with the subject of the search.

The research approach:

Since the current research aims to identify the semantics of the digital influencer and its implications in the children's theater, therefore it was necessary to choose a scientific approach to design its procedures, so the choice was made on the descriptive method (method of content analysis) as it is the most appropriate scientific curriculum to achieve its goals.

Research tools: The researcher relied on the analysis tools of the sample models and agencies:

1- Watching.

Indicators of the theoretical framework after presenting it to the Committee of Experts and turning it into a tool for analyzing the presentation as a standard measurement of the work of the digital influence and tracking and investigating the process of working for the digital influencer and analyzing it in the theatrical presentation of the child at the levels of visual level and its operations and auditory level and its operations.

And it's like:

(Child Theatre Theatre Content Analysis Form):

- After obtaining the information she had obtained from the theoretical framework indicators and the surveys and surveys, the researcher built her research tool, the digital semantic content analysis form, at the Children's Theatre performances presented at the European Theatre Festival to learn about the aesthetic values of these performances.

- The form was made up of (9) paragraphs, the researcher developed a five-year standard represented by a degree of "showing strongly, appearing strongly, appearing weak, not appearing, not working, needing to be amended", and this form was presented to (5) experts in the fields of the arts.

Stability of the form: Since the tool, which is considered sincere through the experts' reference to its validity, the process of showing the stability factor has a moral significance that reassures the researcher in the process of use, so she chose a model of theatrical presentations for children based on the introduction of digital effects as an element of the presentation, for the purpose of analyzing them according to the form of content analysis and showing the stability factor between them and two analysts as described in table (2).

Table (2) *shows the stability factor for the content analysis form*

to	Theatrical performances	Researcher with		M1 M2	Rate
		M1	m2		
1	(1)	0,86	0,87	0,86	0,86
2	(2)	0,87	0,87	0,87	0,87
3	(3)	0,86	0,86	0,86	0,86
	General average				**0,86**

By looking at table 3 results, the stability factor for the content analysis form is equal to (0.86) and is a good indicator by which this form can be adopted in the analysis process.

Statistical means: Cooper equation: used to find the ratio of agreement between the arbitrators.

1. $$DE = \frac{100}{NE + N} \times$$

C = the equation of the agreement ratio. NE = number of times the agreement.

N = number of times the agreement is not agreed. (Cooper, 1974, p. 27).

Fifth: Sample analysis: -

Selected sample model: -

Title: Tarzan Play written by: David Henry Hawnke

Director of the show and the design of the synography: Bob Cropley Songwriting: Phil Coulter

Presentation limits: Netherlands Show time: 2011 .

Story: The story begins on the coast of Africa where a British ship sinks and survives drowning a mother, father and child the family managed to get out swimming from the middle of the sea and reach the sea coast and then the family started to build a shelter for her and while living their lives normally the mother and father were attacked by a tiger to keep the child alone and live in the forest amid animals until a family of monkeys found him near his house after hearing the sound of screaming, decided female one of the The monkey factions took him and raised him and made him one of her family members, and thus learned Tarzan life of the forest gradually so he told the arts of climbing and fighting and staying alive in the most difficult circumstances and how to deal with nature and his quest to get what he wanted in the middle of difficult anchors and live and after a period of time tarzan grew and intensified his return so he became (Tarzan) a hero protecting animals from predators, especially the tiger that killed his family, Analysis of sample models:

1. The digital effect has synthetic connotations with other complementary display elements.

The digital influencer works at two levels:

Visual level: The visual level works in the installation of visual works between the elements of the theatrical presentation, the digital effect visually can work in the manufacture of visual effects such as lightning, rain, fire, smoke and others as it can form through digital lighting in the formation of visual effects on the stage and the digital influencer worked clearly in the presentation in the formation of the map with the installation between lighting and visual effect manufactured filmally in the show where the map turned with the gradual appearance to the sea and the ship reeling between waves, storms and rain Until the ship sank, the film material used depended on digital processors in the formation of the ship, waves, rain and lightning.

Audio level: The audio level of a number of effects that were digitally processed generated a combination of wind sounds, crashing waves and thunder in turn entered into a synthetic relationship with the digital optical influencer, so it integrated the formative system of the general atmosphere by producing the stormy atmosphere acoustically and visually, entering the relationship between the digital optical influencer and the digital audio effect in an integrative compositional form in which the digital acoustic influencer contributed to strengthening the dramatic expressions in the presentation.

2. The digital influence has transformative and evolving connotations of the evolution and transformation of the dramatic act.

The second indicator worked with clear formations through the transformation from the digital influencer in the scene beginning at the beginning of the show to other scenes by dealing with digital effects and generating them through digital lighting where digital lighting completed the visual works that were initiated in the scene of initiation through the simulation of lightning, rain and thunder in the film material that was displayed at the beginning of the show after the end of the scene continued through its generation and simulation based on digital lighting devices, The technical treatments that have shaped visual works on stage are in turn aimed at creating an idea that addresses philosophically and through the idea and meaning embodied in the form takes the aesthetic value of its expressive ability through the visual formations and works resulting from the integration of digital technology in the manufacture of the digital influencer and its embodiment on the stage where it contributed to the formation of a large part of the presentation synography.

3. Digital influencer is an educational tool that contributes to delivering the message faster to the child.

What distinguishes the digital influencer in the process of adding and engaging in the presentation is the possibility of making both visual and auditory exciter with high control and accurate details in turn constitute an attraction to the recipient as a full composition on the stage through the mutual relationships generated in the visual formations and overlap with reciprocal, metaphorical or relational relationships and then deliberative and in this case the influencer works on the process of generating the shape and then formulating it and then spreading it and the expressive power in the completion of the form and its formulation that constitutes The factor of linking the recipient with the presentation in form and after recognizing the shape and how strong it is in influencing the recipient in bringing it into the world of presentation and turning the presentation into a safe in the mind of the recipient treats it and thinks about it and comes out with ideas and meanings of it the more technical value in the completion process the greater the impact on the recipient in the process of stirring up intellectual work.

1. The digital influencer is a temporal and spatial equation in the event.

While the fourth indicator worked very clearly and clearly in the formation of the special environment in the introductory scene completely through the digital moving scene that lists the sinking of the ship and the stormy atmosphere and shows in the clouds and its movements and waves and the raging sea through the visual formations that formed the launch of the show in its introductory scene and then the transformation worked to employ digital devices for lighting and the method of simulating different times and times and installing them with trees, jungles and forest in the formation of the environment and give it its time and place and created a place To produce the event and the dramatic action on the stage.

2. The digital influencer stimulates joy and pleasure and promotes the spirit of optimism in the child through psychological effects.

This influencer worked very clearly through the shapes and colors generated by the digital influencer industry and how to move and create contrasts and color compatibilities in the production of visual action that is a factor of excitement and attraction that brings vision and vision to the sperm of the display movement in light and movement in formations and generate depth and disappearance and the appearance of digital effects visually and audio on the one hand and audio on the other where the relationships worked in organizing the formation based on the production of a basic marking system and a support system and escort and complementary and transition from color to color The movement of monkeys, costumes and trees with lightning with lightning with the digital functioning of the sound system aimed at achieving the greatest amount of pleasure and excitement among the recipient is as harmonious as a color and sound system in accordance with the age requirements of the child.

1. The digital influencer contributes to the aesthetic attraction (artistically) and education of the child.

The researcher believes that this indicator has worked in the success of the process of composition aesthetically, through the cases of transition, embodiment, composition and parallel in the production of a form that distinguishes the presentation from the remaining presentations in terms of the formulation of visual and audio works and generate a special distinct form in the presentation in new, different and transformative details through digital and other artistic uses and transformation is entirely from man and time to place and time other or continue the chronological hierarchy and composition between temporal and critical hierarchy in terms of color, composition, movement and photo rhythm. What distinguishes digital effects in the composition and production of these different processors is speed, accuracy, low cost and the possibility of addition and deletion.

Results and Discussion

First: The results: - After the analysis carried out by the researcher for the sample model found that there are basic pillars in the employment of the digital influencer in the performances of the children's theater agencies: -

2. The influencer must be made with a formality that is appropriate to the type of event designed for it accurately and takes into account the conditions and level of reception of the child.
3. Technology in the digital influencer industry is a vast experimental area in recruitment and visual work because of its expressive potential and power that can shape the presentation in a more interactive and aesthetic way through the possibility of shaping and developing the digital influencer.
4. The process of employing a digital influencer in the theater provides high costs through its rapidly implemented and high-impact visual work due to determining the treatment of needs and working on them in terms of space and time.
5. Dual and 3D scenes can be used to make digital influencers with high craftsmanship, so that the special environment in the show is impressive and attractive.
6. In the formation of the dramatic event, digital technology in the digital influencer industry allows the construction of advanced visual configurations at the technical, technical and aesthetic levels.

7. Both audio and graphic processors are made in a way that integrates them with the presentation, complementing each other through the internal relationships of the show between the vocabulary and elements of the show.

Second: Conclusions: - The most important conclusions are:

8. It is possible to make a sophisticated presentation based on digital technologies in the formation of the digital influencer and this process contributes to the acquisition of an impressive and distinguished presentation technically and technically, which is provided through digital processing processes in the formation of the display industry in the children's theater.
1. Entering modern technical areas in the process of making presentation and discovering what these technologies can offer in the richness and development of the children's theater through the new possibilities and prospects offered by modern technology.
2. Digital technology offers all the potential to produce a homogeneous and integrated pictorial unit between the digital landscape industry and its employment in the theatrical presentation prepared for children.
3. It is now possible to develop the dramatic event in accordance with the modern developments in the world of the child and bring the child to these areas in terms of form and content in much wider terms, while maintaining the character and theatrical character.
4. The process of manufacturing a digital influencer, whether optical or digitally audio, has a wide range of ranges that exceed any other methods in terms of accuracy, execution, detail and low cost.

Third: Recommendations: - The researcher recommends the following:

5. Interest in holding performances that adopt the recruitment of the digital influence in the children's theater and benefit from it as a material income and as a cultural intellectual product because it will represent a new way and style in the theater performances for children, which will form an element of attraction and excitement for them.
6. Attracting interested people, professionals and amateurs working in the field of digital technology and holding seminars and workshops to find out the secrets of this discipline and its method scientifically and organize it to achieve the greatest benefit desired from this process.
7. Work on the opening of specialized centers in the field of the employment of digital technology and the manufacture of digital influencer and its work in the theatrical presentation offered to children.

8. Work specialized training courses and workshops working to equip and prepare professionals in the field of digital influencer industry in the presentation of the children's theater.

Fourth: Proposals: - The researcher proposes in order to reach outstanding results in the digital influencer industry research in the following areas: -

9. Research how digital editing is used in children's theater shows.

1. Research on how to create fixed and digitally mobile kravic designs and employ them in the children's theatre.

2. Research into the generation and employment of the digital environment in the children's theatre.

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MOVEMENT FLOW IN INTERIOR DESIGNS

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Abstract:

The flow of movement comes to enhance the functional aspect in the process of moving and moving within the spaces according to the coordinated harmony of the communication system between the interior and the exterior, and in it lie important points in the type of interior space through what it contains of complementary and furnishing components, from here the problem arises in dealing with the constants of construction and the variables of elements In the interior design, the characteristics of formal diversity are manifested as processors, including technical and performance ones, in order to reach the most appropriate realizations of the flow of movement, such as directionality, continuity, rhythmicity, and the exchange of links between the multiple spaces of public institutions with a continuous dynamic flow of users.

Keywords: flow, movement, design, space, interior, art, creativity, process, transition, communication, technology, elements.

1- Research problem:

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The movement of the user in the interior spaces in general, represents one of the most important considerations of interior design, on which the functional and performance aspect is based as an activity for the flow of movement and the flow of movement within the building, taking into account the transition through the uses of corridors, stairs and other levels, where the flow of movement of the user is determined to participate in The activities of other users within the same space, which causes some feeling of lack of space, which causes congestion in moving from one place to another.

Through an exploratory tour conducted by the researcher in some of the (elderly care homes) she spotted some weaknesses and difficulty of movement due to the lack of modern standards that determine the flow of movement within those internal spaces that are characterized by the effectiveness of movement at the level of activity and daily practice of individuals, from here a problem was formulated Research the question as follows: Is it possible to handle and facilitate the smooth movement of the user within the internal space?

2- The importance of research and the need for it:

A- Focusing on organizing the movement paths in the internal spaces of a role to ensure ease of movement and movement within the internal space of institutions with continuous communication of the flow of movement within the daily activity of individuals.

B - It contributes to providing a culture of specialization with processes and solutions to communicate with individuals within the flow of movement as a theoretical and practical aspect that benefits specialists, designers and workers in the field of interior design.

3- Research objective: The current research aims to:

- Detecting the flow of movement in the design of internal spaces for institutions with continuous activity of individuals.

4- Limitations of the research: The research is determined as follows:

A - Objective limits: a study of the flow of movement in the interior spaces of nursing homes.

B - Spatial boundaries: Iraq - Baghdad / Ministry of Labor and Social Affairs.

C- Time limits: the year 2021.

5- Define the terms:

Kinetic fluidity is defined as a group of physical factors that arise from the performance relationships among them, making up a set of functions that depend on movement, and their physical properties in designing kinetic paths within the interior spaces with solutions in functional and performance terms, thus causing a temporal and spatial change through internal movement.

The first topic: Interior space and the concept of movement:

Movement in interior spaces depends on paths and lines between space and its content in quantity and quality, and also depends on the presence of joints of openings such as doors to move between space and another, and they differ in their types, shapes and patterns between performance and another and between activity and another, so the meaning of movement in internal space means walking between space and another of Inside to outside and vice versa. As for the characteristics of movement with its good action, it is that all its corridors must be privileged to proceed with speed of access and in the event that the space is completed as a movement corridor in addition to its function, as it is a necessity in an additional flow that is sufficient for the purpose of the required design, Accordingly, we find that the movement has characteristics of its own and general types that appear in formal paths and patterns according to determining the directions of movement, as (the human movement has a speed and rate of movement imposed by other structural determinants such as the height of the list and the number of levels that determine the height of the roof or floor inside the building, and for this reason the user's movement is determined by foundations and standards It is related to the nature of the overall system of the structure of the interior spaces, which determines the latter with the user's performance function) (Faraj, 2018, p. 72).

The environment is an important component (of bodies in nature and within the real space, in which bodies move and take their places and positions) (Norberg, 1971, p. 46). Space is also linked to human activity and experience within his physical formation, as it combines activity and human action, and space represents the third dimension. for spaces.

The inner space is related to the activity of the human being and his awareness of it, as it is characterized by the fact that the space is narrow, giving a sense of isolation or privacy, or in some cases it is characterized by safety. Multiple meanings, for example, closed or semi-closed, regular or irregular, wavy or broken, from here it can be divided according to the patterns of activity in it:

(a) The practical space is that space defined by the movement of the body.

B - The tangible space is the result of immediate, direct, dimensional adaptation and sensory and psychological effects.

C- The existing space, which is the real one, which constitutes a stable human view of the surrounding nature.

D - The tangible space is the space with specific physical dimensions and includes the architectural spaces.

E- It is the abstract space that depends on the logical relations) (Parson, 1966, p. 70).

From the foregoing, it is possible to formulate a general concept of movement as a dynamic state determined by the concerned request for the purpose of this movement and it may be independent or closely linked to other kinetic systems that together constitute a unified kinetic system. And the movement that we study is the movement formed in favor of design as a system that governs the design of space, which represents an implicit movement of the general design of space, and movement as a system that connects the parts of the building and the embodiment of its spaces.

Here, the functional use movement resulting from the use of space that affects (the shape and design of space and the action performed by that space and the associated means, tools, complements, sequence of activities, intersection of functions and integration of parts to fulfill the desired purpose of the space) (Imam a.s. , 2016, p. 6).

The semantic values of the formal diversity and the difference in its structure is based on the system of kinetic communication of the angles of the form, which gives a shape with a movement with (a rhythmic system that transcends the limits of the space that surrounds the form, which contributes to providing mental perception with impressions with a virtual extension of space in an indefinite way) (Al-Bustani, 1975, pg. 103).

1- Mechanisms for classifying the types of movement systems:

Any design, composition, or internal space must contain connecting elements between the parts of that space in order to secure access to them and organize the relationships in their correct, appropriate and appropriate form between its components, whether at the level of the general form or at the level of a special perspective within the building or space, and this connection secures Intermediate movement to achieve the results of communication with minimal effort and without entanglement, which is an important work in addressing those spaces, so the types of movement can be classified into several forms and on different bases and considerations, including the types of movement known in modern mechanics, the transitional, rotational, and complex oscillatory movement, and detailing these types It shall be as follows (thaqfya, 2013, p. net):

- Transitional movement.
- Rotational motion.
- Complex oscillatory motion

A - Transitional movement: The transitional movement is known as linear movement, because the body moves in a straight line in one dimension and one direction, in contrast to the rotational movement in which the movement is rotational around the axis of the body, for example, if an arrow is drawn on the moving body only a transitional movement The arrow will still point in the same direction, but in theory the body does not move in the case of transitional movement in a straight line, as it moves in a curved way but does not change its direction, except that this case does not exist in reality, (The science specialized in the study of transitional movement claims transitional dynamics, It uses a number of laws and equations, It depends mainly on Newton's laws of motion, and examples of forces that can affect objects are the force of gravity, and friction, and the principles of translational motion are used to explain the heat of matter, through the movement of molecules in it) (Al-Baldawi, 2005, p. 67).

b- Rotational motion: The rotational motion is the rotation of the body around its center or axis, as the distance (which is the determinant between the axis around which the body revolves and the point that was subjected to the force, it is the angle between force and distance, and thus bodies that rotate around its axis acquire kinetic energy) (Solomon) , 1997, p. 105).

C- Complex oscillatory movement: the oscillatory movement is a movement that arises from a repeated change of movement with time, that is, the movement repeats itself during a period of time, and one of the most famous examples of this movement is (the movement of a pendulum clock that moves to the right and then left, around a point located in the middle of the pendulum Name the equilibrium point in a specific time, then return the movement to the right and then the left in the same period of time (thaqfya, 2013, p. net).

2- Forms of movement according to its layout:

What the movement represents in terms of actual transitions between places and places that can be described and referred to, according to the coordinates of the spatial movement and can be measured because it is determined by time, every movement from one point to another can be described and analyzed, and the movement may be a gesture, a sign, an inclination, or a path in all directions and at all levels. Movement and its trends have forms that impose their presence on bodies, including (Editors, 2018, pp. 130-132):

First: Linear movement: It is a movement that is either straight, or curved, or curved, or parallel lines in the same axis, as the direction in it is clear and the activities are distributed on both sides of that movement. An example of this is like the movement of linear paths in spaces and others. to the parts, and examples are the passages (Al-Sayed, 1990, p. 90).

Second: Peripheral movement: It is a movement that is circular, closed, or spiral, as the movement is through a peripheral main axis, through which the various sections and various activities are reached, an example of this movement in open hotel halls, museums, gardens, and others. This system is characterized by that the movement is around a person, a major element in the design, or a sequence in display, as in the galleries of museums or exhibitions.

Third: Network movement: It is the movement in the form of perpendicular lines forming a grid of squares or rectangles, and examples of which are movement within restaurant spaces (Al-Qassab, 1998, p. 137).

Fourth: The organic movement: It is a natural linear movement with many zigzags and ramifications that grows naturally, as access to the different spaces is through a main axis from which a number of secondary axes branch. Spontaneously as a result of expansions and additions (El-Sayed, 1990, p. 95)

Fifth: The radial movement: It is the movement that is distributed and branched from a central midpoint, as all axes in it lead to a central focus and all the branches of those axes are secondary.

We conclude from the foregoing: that two or more of the aforementioned types of movement may participate in the space of the same building, it may be originally through the basic design scheme or as a result of the expansions that occur in the building, which creates a kind of suspense and pleasure in the openness of spaces.

4- Types of movements in interior designs:

First: Horizontal movement: It represents the process of moving from one space to another at the same level or a slight difference in the levels. The straight line does not necessarily have the shortest distance between two locations in the design, but rather stress and human behavior are related to that. Curved lines give more comfortable paths than straight lines sometimes. The intensity and speed of motion have an influence on the decision on its trajectory, amplitude, and direction. The horizontal movement is also determined by a number of indicators, whether that movement is internal or external, and is divided into elements (physical, furnishing, complementary) (Salman, 1996, p. 146).

Second: Vertical movement: Vertical movement requires greater effort than horizontal movement, so single-storey buildings give a sense of tranquility and a comfortable life. Weight (Sherzad, 1985, p. 17).

Third: The movement between the interior spaces: It is the movement that is within the building or the facility itself and expresses the function and use benefit of the space, and it has many elements that define and control such as color, texture, lighting, measurements and proportions comfortable for the user, and this internal movement can be classified according to the spatial relations of the interior spaces on As follows:

A- Space movement within space: The movement in a content space is within a large main space, and the movement elements that you define for the content space depend on the movement elements of the container space, noting the difference in the content form despite the functional difference between them.

B - Movement in two overlapping spaces: the movement is in two overlapping space fields, forming a common space field, as the movement is in that independent resulting space (Al-Yasiri, 2006, pg. 72)

C - Movement between adjacent spaces: It depends on spatial continuity through the extension of the separating plane (Ali, 2002, p. 77).

The movement between two spaces is clearly defined for the functional and utilitarian requirements for each of them, and the mechanism of movement between them depends on the spatial continuity and the nature of the level separating them, and when (the movement between them is either through a visual-physical barrier separating them, which enhances the independence of each of them, or a row of columns as a high level separator As for a change in the levels of floors and ceilings) (Al-Yasiri, 2006, pg. 40).

D- Movement between spaces linked to a common space: The movement is between two or more spaces separated by a third intermediate space. The shape and volume, so the connecting space results from linking a linear series of spaces and the movement in it as a corridor connecting them, or the connecting space has a distinctive volume or a large area that dominates the rest of the regular spaces around it, so the movement is from a main center to other secondary spaces, or the movement may be in a vertical movement space The basis of the movement is for the building or origin (Al-Yasiri, 2006, p. 24)

3- Characteristics of Movement Systems:

The most important characteristics of movement systems or kinetic paths in internal spaces in particular and external spaces in general is that formal unit that makes the movement system or movement path a spatial configuration with a distinctive and well-defined formal shape when it possesses a readable spatial identity and known and clear space boundaries by several factors, including:

(a) Continuity: the physical boundaries of space are defined through the continuity of blocks, surfaces, and elements that define it, and are characterized by unity, clarity of personality, richness, diversity in details, and the dominance of a particular element as an attraction.

B- Diverse repetition: Formal unity can be achieved by repetition of a specific element with a degree of freedom in formulating and enriching details by focusing on dominating elements that appear in specific places. The repetition is either complete through the matching of elements such as the alley, for example, or incomplete, so it is either an alternating repetition or a variable repetition in which the monotony found in the perfect repetition is broken (Norberg-Schulz, 1971, p. 83).

4- Orthographic movement:

It is a non-transitional movement, as it explains a psychological or mental concept. It is a fixed-site movement that carries an interpretation of the meaning of movement (Al-Rubaie, 1999, page 79), as it is the product of the mind’s awareness of artistic phenomena that are supported by past experiences and human memory, provided that this movement is essentially fixed and impossible to occur. An actual movement within its spaces, but its occurrence is just an illusion, and it can also be considered a psychological stimulus that allows the realization of transitional perceptions through the mental space of the recipient (Al-Bazzaz, 2001, p. 16)

5- Location and direction as a movement effect in the inner space:

The locations and directions of things have a presence that achieves communicative values. The location has a great impact on the process of perception and reception, as organizing the signatures of the internal space elements is linked to several considerations, including the kinetic behavioral aspect, isolating the private from the general, achieving directionality (Al-Khalidi, 2000, page 56).

The location is not a direction, as it is a clear indication, while the direction is an indication towards a goal to represent the visual movement, as the formal treatments of the act of displacement and the location give the shape its identity, feature and personality so that it appears with the other elements a dynamic, transforming structure of the site of importance in determining the nature of the interior spaces and the method of its kinetic performance. The direction indicates a clear sign of expression as it is closely related to the subject of movement, given that there is no movement without direction. The kinetic and axial directionality represent symbolic properties that give space an expressive power and provide planning and design capabilities to integrate what is visual with what is symbolic, and this contributes to unifying and linking a group of elements In the overall structure within the general system. The principle of directivity is associated with the structural organization of interior spaces (Scholes, 1996, p. 28).

The second topic: Interior design and the priority of functional considerations

The realization of the design and the manifestation of the functional role in the space puts the users in direct contact with the motives of other functions on the one hand, and a sense of belonging, containment and reassurance on the other hand. And the effect of the idea in consideration, and selectivity here is an invitation imposed by the material sometimes as the idea imposes it at other times and the most important thing that determines this subject in priority to one over the other is the interrelationship between the function of interior design and the user, which the designer seeks to find through insight into his selection of elements and vocabulary. The interaction in the light of the stimuli of the manifesting material with the projections of the idea is the essence of what he calls interior design with the objective event of its function (Ch'ing, 1987, p. 161).

The inner space is a closed space separated from the outer space by horizontal and vertical determinants (walls and ceiling) that give the building its shape, and these elements or determinants determine the main general characteristics of the inner space, such as space, height, size, and windows from doors and windows act as joints for communication between one space and another. ((It is also considered as "the perceived space as a wide space that allows movement and the performance of functional tasks. The spatial aspects are the field of movement and activity of the body and the distances between things to highlight their entity in space))" (Al-Bayati, 2012, p. 36).

1- Interior design requirements for the movement of internal space users:

The interior design process requires complex and overlapping information about the expected behavior of users while dealing with the interior space, and the interior design process does not take place unless the designer has prior knowledge of the expected behavior of users, that interior design does not deal with interior spaces and form only, but deals with human activity and its connection to time and place. , and the factors affecting the design such as environmental and natural factors and safety factors (Al-Horstani, 2013, p. 5).

2- Transitional joints of internal spaces:

Transitional joints are a special category of life systems in various aspects of visible and latent nature that are governed by relationships and balances that give a major response to a functional need or necessity, and nothing can exist unless there is an organized relationship in the formation and construction of the phenomena of things, and this means that these phenomena in Our world is based on coordinated and integrated mutual relations, if the design is an internal environment, it is a design decision that meets all spiritual and health needs (Ch'ing, 1987, p. 201), and in the field of interior design and its internal spaces in general, they are linked to the same reciprocal and interactive relationships with different and various influences that determine The role of one another in the selection of everything that matches the design.

Hence, we find that any design consists of relationships, whether between the elements among themselves to form the accomplished or between the accomplished itself and the direct user of it, and this refers to the interconnected relationships of the composition between one part and another down to the whole of the concept of the integrated structure, in a process that starts from description to analysis, that The descriptive process when it begins, whether it is realistic or illusion of realism, imposes on the descriptor to resort to selection and selection, as a result of the crowding of things and details, the thing that necessitates activating some of them and warning the other, and this selection process is never done innocently, although it sometimes seems as if it was Automatic, because it necessarily draws a clear impact on the cognitive, psychological and ideological dimensions. Those dimensions that the game of selection and description translates, and this is what the relationships between things reveal, Which establish systems in the distribution of design elements from spaces or complementary elements and even movement by the user and vice versa also true if we say that the organization achieves relationships between the same vocabulary, for the harmonious exchange between the possibilities of the two, then the appropriate design for the movement of the elderly is the main challenge for any architect or designer Internal regarding the movement of the elderly inside the home, and the continuity of movement without obstacles and finding a means of communication that addresses the rest of the senses on which the elderly depend in their movement without relying on the help of others. Horizontal and vertical determinants have been set to facilitate their movement, and these determinants (Afifi, 1987, p. 53) .

The connection of doors between internal spaces made them affect the patterns of movement between one space and another, as well as the way of distributing and assembling furniture and activities within one space, and the number and size of doors in the interior space should not conflict with the distribution of activities and functions within this space.

The specifications and standards required for placing the stairs in the dwelling can be summarized as follows (Krier, 2012, p. 44)

_ Do not use circular stairs or those that contain steps in the breaks

_ The height of the steps should not be more than 15 cm and its width should not be less than 30 cm, and its grades should be equal.

Drawer edges should be round and not sharp (Krier, 2012; Krier, 2012)

_ Putting an average rest when the level difference is more than 5.2 m and its length is not less than 120 cm and the width of the stairs (Time-Saver, 2012, p. 34)

Ladders differ in the materials they work from (Salman, 1996, p. 63):

Brick stairs: which consist of bricks and akkad and the use of shelmans or brackets.

Concrete stairs: which consist of reinforced concrete and are either on-site or pre-cast.

Iron ladders: which are made of iron with all its parts, such as emergency ladders.

Wooden stairs: made of wood with all its parts or the structural part.

Escalators: They are electric escalators characterized by the roughness of their horizontal surface to prevent slipping and are placed in the direction of intense movement in the building or facility. One of the most important points that must be noted when designing the stairs is the ease of access to be clear to people and there is no need to search for it. It must also be Adequate lighting is available in it, and the distance between stairs in public buildings should not exceed 40 m, which is an acceptable distance for discharging people during accidents.

The stairs also differ in terms of their shape and architectural design:

_ Straight stairs: They are divided into the ordinary straight stairs that do not contain a plate, or the straight stairs with angles, which contain plates that change the direction of movement (Salman, 1996, p. 32).

Arched stairs: They are either circular, curved or spiral, and they are characterized by being sandwiched between two circles, one internal and the other external.

Vertical stairs: their slope angle is more than 4-5 degrees, and they are used for maintenance or escape purposes, and they have fewer symptoms than the usual, and the quarry is important in them due to the difference in the center of gravity, which requires a stronger hold on the ladder.

Electric elevators: It is one of the vertical transportation means that is somewhat modern compared to stairs because it depends on special electrical mechanical means that require techniques and provide more services especially for the elderly as they require permanent maintenance than in the stairs and are used to transport the elderly and those who use wheelchairs or Those who suffer from some diseases, as well as transporting goods, families and services between different levels with less or no effort, and the person makes an effort in the vertical movement, which shows some of the types of elevators used in buildings and generally differ in their dimensions and measurements according to the loads and their use, and the safety factor is important in them It is very dangerous because it causes major fatal accidents if it falls) (Al-Qassab, 1998, p. 39).

The construction of elevators requires the availability of a vertical space in the building for the movement of the elevator in it free of any horizontal obstacles, and many things must be taken into account during the design of the building in the case of the use of elevators in order to provide an integrated space for the movement of the elevator.

1- The effect of light on movement:

The sense of sight in humans is the most important sense in the process of recognition and the most comprehensive in perception and visual sense as a mental reaction to the means received from the external environment through the eye (Al-Badrany, 1991, page 3) and this sense certainly differs from one person to another according to the age of the user and the extent of his intellectual knowledge Therefore, the design of interior lighting is related to the human being used as well as to the type of events and the shape, size and area of the interior space Until it reaches the smallest details of the supplements, as well as the colors and textures of the surfaces, especially when it comes to the type of lighting, whether artificial or natural, and the relationship of these variables to the job, whether active or inactive, or between them. Industrial lighting (Littlefair, 2004, p. 59)

2- The effect of furniture on movement:

The designer must take into account the pluralism in the forms and types of fixed and mobile furniture, its materials and colors, and in harmony with the rest of the space components to facilitate attention processes for the elderly and reduce the processes of intersection in the movement. The process of communicating with it within the place and separating it from other places. Despite that plurality, all kinds of furniture must share its proportionality with the function of space (N, 1991, p. 169).

It is preferable when designing and choosing furniture that it be in shapes with curved ends, for the safety and security of its user, so as not to impede the movement of the elderly, and with measurements that impose partial conditionality on the activities with their proportion to the measurements of the human body and that the choice of colors in it is consistent with the rest of the space colors and complements to the rest of the space. It should be easy to clean, and not hinder movement. It is preferable that the furniture be close to the lighting units (Rosenthal, 1980, p. 36) with the possibility of using multiple types to give a distinction to specific pieces of furniture from others and that the measurements of the pieces of furniture should be proportional to international standards and in ways that give The space of the house is symbolic.

The distribution of furniture pieces is in proportion to the size of the space without hindering the movement of its occupants near the joints, especially the vertical ones, or in the middle of the space and in an expressive way that symbolizes in its organization the environment in which it is placed in the multiplicity and diversity of tables and chairs and in certain colors to draw attention to its reflection on the beholder. As for the furniture, it is With a specific color pattern with its diverse and harmonious decoration with its conditional reflection on the space, it is preferable to have complements and accessories in part from statues, paintings, fountains, furniture, plant containers, waste containers, modular units for lighting, audio-visual devices, and air-conditioning devices, thus giving the space its final shape.

3-Effect of color techniques on movement in interior spaces:

Color affects the guiding process of movement and gives a sense of well-being and leads to distraction. The elderly begin to identify basic and saturated colors such as red, blue, yellow and green before shapes and then appear in response to complex drawings and for the majority of users, color and shape become equally important (Green, 2003, p. 48). The use of calm colors with a few saturated colors is the best in the kinematic pathways of the role (Marberry, 1995).

It shows the contrast between the levels of colors in the stands, as well as the contrasts between the walls and the floor in the spaces. As for their employment, it came according to the performance activities.

The use of strong colors, with their exciting and stimulating nature, is tiring to the eye, so it is recommended to use them in places of movement with short stays such as corridors and stairs, but for each material is equal Natural or artificial canopy texture, being the external visible appearance of the material used in the embodiment of the design idea, color is an inherent characteristic of the texture, because every material has a color and there is nothing without color, and the nature of brightness determines the quantity and quality of the reflected lighting (Sherzad, 1985, p. 182)

The outward appearance of the material is called texture, and it is a term that refers to the tactile properties of the surface. We may feel the texture during the actual touching process or through suggestion by the sight or the visual scene alone (T, 1980, p. 57).

The importance of the functional performance of the spaces of the homes for the elderly has an impact on determining the movement paths for the elderly who frequent these spaces. In view of the variation in the personal variables of the elderly, the designer worked to find a system for the movement paths to ensure the best possible efficiency in the design of these paths. The functional organization of the spaces of the elderly homes is the basis on which the movement planning process is based, and depends on two types of use (Bennett, 1977, p. 151) :

A_ Basic use: It represents the first point of attraction for users of public space.

B_ Secondary use: It includes secondary activities in space and not all frequenters use it.

And the spaces of homes for the elderly have certain places that determine the kinetic paths that can be divided according to the nature of functional performance into:

1- Places of movement: They are dynamic spaces that give a sense of movement and are of an unstable character, usually in the form of a relatively narrow longitudinal strip compared to the rest of the spaces.

2- The stopping places: They are stable spaces (squares) that give a sense of comfort and stopping, and they have space shapes that tend to form a square or a circle and can be used to sit and wait. These places are characterized by their need for environmental protection.

3-3-2 Space organization:

Public spaces have a set of organizations that affect the nature of our perception of them as visual axes. It can be summarized as follows (Ching, 1996, p. 18):

1- Linear organization: that is, the presence of a linear sequence of successive spaces.

2- Central organization: It means the presence of a dominant central space around which secondary spaces are gathered.

3- Radial organization: It means the presence of linear organizations of spaces extending radially from the central space.

4- Cellular organization: it means the relationships of convergence and convergence of spaces, or their participation in a relationship or a common visual feature.

5- Network organization: It means the presence of organized spaces within the domain of a structural or three-dimensional network.

And by studying the characteristics related to the movement's activities within the spaces (Imam A., 2016, p. 6):

1- Basic characteristics: it includes the number of times a distance traveled during a specified period of time. As well as the number and importance of this activity, as the distance is cut back and forth, as well as the specifications of the individual conducting this activity (gender, occupation, age, health status).

2- Derived properties: It includes the distance traveled in the movement (time, effort, … etc.). In addition, all transfers at a certain time. Derivative properties include one or more basic rheological properties.

(Description and Analysis)

1- Description:

Elderly care home in Finland

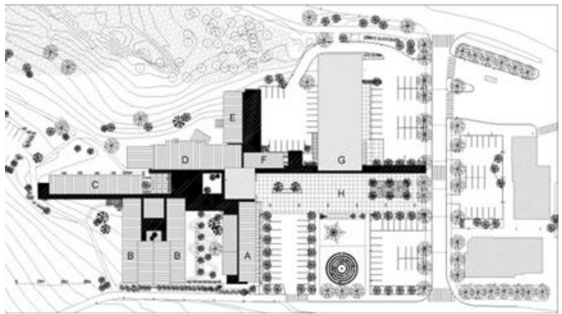
The name of the home/care center Une - Pokila, Finland

Founding year (2007

Source: http://www.architonic.com/aisht/welfare-centre-onni-l-m-sievanen-architects-ltd/5100622

Photographer: Josie Tianen.

Bukela is a small municipality (population 2,000) in southern Finland, 100 kilometers from Helsinki. The social welfare center of Oni was only possible because of one man, Oni Nurmi, who was born and lived at an early age in Pokila. In his last will, he ordered that his assets - which include Nokia shares - be used for the recreational purposes of the elderly. The result of his gift was a design competition in 2004 and the center was ready in 2008.



Erja Sipilä Architect

Pauliina Mäkinen Interior Designer

Crista Suomalainen architecture student

Hiroko Kivirinta Landscape architecture (Japanese garden)

Anna-Kaisa Kaukola horticulture (green area design).

house site plan

2- Analysis:

It is noted that the area for the residents of that municipality shares its architectural design with the house, that is, the cafes with a high lobby form the heart of the building, which gives a distinctive overlap through the formation of the upper part of the balcony in the form of a lantern, which tends to open up to a Japanese garden, and the upper part of the building is characterized as It is divided into a basic wooden composition with long eaves and comprising a number of units corresponding to the different functions, creating a comfortable environment resembling an integrated village. The use of a lot of wood improves the acoustics of the building and creates a comfortable atmosphere for its elderly users.

The primary objective of the design was to support the elderly in engaging within independent activities, allowing unrestricted access to the buildings and the use of colors and wood materials to make the living environment attractive and comfortable The multi-purpose objective also leads to improved activity and the need for flexibility to adapt the buildings towards guiding the design of the building.

It is noted that the formal treatment between the outer space and the inner space came in accordance with a comfortable visual attraction to the eye, which indicates the compatibility of the interior and exterior between the openness and closure of space through the spaciousness of spaces and the use of wood as a basis in the structure of the formal structure, which gives the spaces a psychological dimension that is reflected in its users, with the treatment of activity The flow of visual power and relevance of designs from all its fields by relying on smooth, soft elements and a sense of simplicity of designs in the open space between homes in the form of a linear and central organization.

The importance of these components in the actual straight movement is also reflected in the formal reduction produced by the movement paths and the transition towards the formal view of the entrance to the apartments through the use of glass at all vertical and horizontal levels, and this is reflected in the level of visual flow and stimulating activity in the elderly.It showed the flow of movement according to a suitable organization in which the functional dimension is aligned with the aesthetic dimension to achieve the maximum actual performance of movement and movement in a way that ensures a level of interest in the capacity of the interior spaces and the exchange of visual openness towards coordination between resting places and sleeping places, which is a kind of active contribution in trying to push the users of this The space to move from one space to another space without exhaustion, which gives them a harmonious state for the body sport. The movement between space and its neighbor came according to a harmonious pattern, as well as between two or more spaces.

The main entrance and the ceiling adjacent to the market square, the cafe with a raised upper part in the form of a lantern, the stone wall and the upper porch of the collective houses.

The open interior spaces.

Research Results

1- Research results: The results of the analysis came as follows:

A- The levels of movement showed through the multiplicity of spaces between the interior and the exterior, which gave the building the feature of differentiation.

B - It was adopted in the distribution of spaces the straight flowing movement of linear movement according to multiple paths.

C - The formal treatments came to use wood and glass in a more appropriate and better form.

D - Space diversity is achieved through the diversity of space spaces in the simplified interior design to facilitate the transition.

E - The optimum performance of movement in all the joints of the building came through the communication between the balcony, the café, the corridors and the people's rooms.

The formal proportionality of the design elements is achieved by coordinating the distribution of places according to a functional and aesthetic function that reflects the users of those spaces with comfort and physical and psychological pleasure through ease of movement.

G- The flow was generated through directivity in organizing the paths of movement and movement through the basic and derived characteristics that effectively contributed to adding a qualitative treatment to the interior spaces.

2- Conclusions:

A - Movement in nursing homes is achieved through the expansion of spaces between the corridors of transmission and spatial communication.

B - The functional performance of the movement and its flow are based on the building orientation factors that give its users psychological comfort.

C - The optimal use of natural materials is reflected in achieving an environmental suitability in line with people's living requirements.

D- Achieving the openness between the interior spaces together is through opening parts of the specified space, as well as the openness between the interior space and the outer space is achieved through transparency as the glass materials that contribute to the visual extension.

E - Adopting linear movement in homes for the elderly contributes effectively in pushing the feeling of fatigue and exhaustion and provides the elderly users with vitality and activity.

3- Recommendations:

Through the results and conclusions, the researcher recommends the following:

A- The concerned parties concerned with caring for the elderly by adopting wide spaces in order to achieve smooth and more effective mobility.

B - The contribution of governmental and civil institutions to the treatment of interior spaces similar to those designs that take into account movement, kinetic flow, movement and places of rest and recreation for their role, which is reflected positively for the elderly.
C - Take advantage of those spaces to facilitate their adaptation and to address the technical aspects of the atmosphere (climate-environment).

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DESIGN PROCESSES FOR SUSTAINABLE INDUSTRIAL PRODUCT DESIGN

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Abstract:

Sustainable design is a new design trend that focuses on the importance of the relationship between design and nature and seeks integration and compatibility with the environment. And it is known that any design work is a gathering of the main formative elements of the design work (product) in a way that depends on the skill of the designer and the accuracy of his selection of these elements to reach the main goal of the design. And when the product is designed with a high body and excellent accuracy and achieves a sense of confidence and credibility and communicates the message and goal, as well as forgetting about sustainable design, but in a manner that stems from the essence of the concept of sustainability around which sustainable design revolves in general, and falls under the concept of design dealing with the sustainable environment.

The current research aims to identify the design treatments for sustainable industrial product design.

The current research community consists of designs for the company (NAU) designed in the year (2019), and the researcher chose the designs that are the result of her exploratory study of the company's designs published on the company's website on the Internet. The researcher adopted the non-probabilistic

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(intentional) choice according to the research requirements, and a percentage (33%) was applied to the models of the year (2011), and the number of models extracted was (1) models out of the research community of (3) models,

The research came out with a set of results, the most important of which are:

1- The analyzed model is designed and made of two materials, which are recycled polyester, and from recycled wool felt, and these recycled materials are the most choices in the manufacture of sustainable products, as these raw materials do not require a manufacturing industry to produce them.

2- The design and raw treatments used in designing the model, have achieved to a large extent the functional performance, which is the purpose for which it was designed, aesthetic and use, in addition to the characteristic of sustainability.

Keywords: (industrial product - sustainability - design).

First, the research problem:

The world has recently shown great interest in the environment at various levels, after continuous warnings and warnings about environmental problems, such as environmental pollution, the hole in the ozone layer, and the spread of epidemics, in addition to the depletion of natural resources and waste and exhaustion of energies. Therefore, sustainability today has become a focus of global attention, as it " A humanistic theory that calls for attention to the future of man, his health and his environment, and then preserving the environment that guarantees the continuity of human life. It is an expression of a simple idea to ensure a better quality of life in the present and for future generations.

The modern trends at the present time have added to the term sustainability political, economic, social and environmental concepts, which made it more related to the immediate and future issues that occupy the world" (Steele, 1997, p.5)

As the deterioration of environmental systems continuously and at an increasing speed highlights the urgent need for sustainability and its application according to a specific system as well as methods and tools in all areas of life and environment by both the designer and the consumer, where "the process of sustainability is related to the development of industrial processes in a way to ensure energy efficiency and resource conservation to meet the needs of future generations, safe working conditions that enhance skill, low waste production processes and the use of safe and environmentally compatible materials" (www.hisour. com), meaning that all natural resources It will be efficiently exploited and equipped with sources of energy systems to reach sustainable design. Through the researcher's briefing on the subject of the research, she found that the idea of sustainability, and the design treatments to be followed depend on asking the following question:

How does the idea of sustainability associated with industrial product design become possible, through the right design treatments? What are the factors that make design systems work more like natural systems by designing sustainable products that are balanced and self-renewable? What is the possibility of taking appropriate design changes to improve the quality of the product?

Second: The importance of the research: The importance of the current research is highlighted by the following:

1- It helps in laying the basic foundations of the design treatments on which the design of sustainable industrial products depends, and the statement of design patterns that commensurate with the world's trends about modern environmental design standards.

2 - It can make a clear contribution to the development of the idea of sustainable design because of its value and environmental and economic dimensions.

3- It could be a knowledge addition to libraries, curricula and courses, especially at the level of graduate studies in the field of industrial design.

Third: Research Objective: The current research aims to:

Recognize design treatments for sustainable industrial product design.

Fourth: Limitations of the research:

The current research moves according to the following limits:

Objective limit: Design treatments for sustainable industrial product design.

Spatial limit: - Products of the American company (NAu) for the design of sustainable products (bags, accessories)

Time limit: 2011

Fifth: Defining the terms:-

1- Design Processors:

It is the use of known means to find an unfamiliar and known formation and solution, or a familiar solution by using familiar materials in an unfamiliar way. (Zahran, 1977, p. 68)

Procedural definition of design processors:

They are the design methods that are followed in the design of the sustainable industrial product, to be the product of those treatments and methods, which is to reach the achievement of the main goal of the sustainable product by making it an environmentally friendly product.

2- Sustainability:

Sustainability means "the continuation of interaction between society and the ecosystem. It is an invitation to care about the future of the human being, preserving the environment and society, and allowing others to meet their needs now and in the future."

(Abd al-Rahman, 2019, p. 185)

Procedural definition of sustainability:

Sustainability aims to achieve improvement in the quality of life for each person by reducing waste and pollution, improving people's livelihood, preserving natural resources, working to achieve close links between people, and efficient performance in all societal areas to provide a decent life for people, to ensure a sense of responsibility towards the environment and generations current and future.

Theoretical framework

The first topic: sustainable design:

Art has been associated since antiquity with the environment and with the culture of society, as “each environment has its own characteristics and variables that affect its culture, its customs and traditions, and determine the characteristics of its members and their intellectual trends.

(Atiya, 2005, p. 84)

And sustainable design is a new design trend that “focuses on the importance of the relationship between design and nature and seeks integration and compatibility with the environment. (Waziri, 2007, p. 61)

It is known that any design work is a gathering of the main formative elements of the design work (product) in a way that depends on the skill of the designer and the accuracy of his selection of those elements to reach the main goal of the design, and when the product is designed with a high body and excellent accuracy, and achieves a sense of confidence and credibility, and communicates the message and goal

as well as with regard to sustainable design, but in a manner that stems from the essence of the concept of sustainability, around which sustainable design in general revolves, and falls under the concept of design dealing with the sustainable environment, which are:-

1- (Eco-environmental design), which is a system “the analysis of the ecological footprint is used around the world to support sustainability assessments. It allows people to measure and manage their use of available resources, and it also helps to assess sustainability patterns in public life (individuals, goods, services, institutions, industrial sectors, neighborhoods, cities and countries).” (en.wikipedia.org/wiki)

2- (Green design), which is consistent with the term environmentally friendly, and the term “green” means “the dissemination of all beneficial and environmentally sustainable means to balance the impact of industrial progress and development on humans and their prior damages to environmental degradation.” (Pounder, S. 2008)

All of these concepts fall under one meaning and goal, which is to move the design from one level to a level where the industrial design is a sustainable design that gains its design value from achieving the goals of sustainability, using design treatments and formulas through which sustainability is achieved in the design of the industrial product, which is clearly reflected on the design relations. and its connections, and the degree of integration of the design system to the principle of sustainability.

Considering that sustainable design is "a design philosophy for physical and environmental things and services to comply with social, economic and environmental principles, and its goal is to eliminate negative environmental impacts, and this needs to integrate between the natural environment and create a long-term relationship between the user and the producer" (Youssef, 2002, p. 65), and from During which the designer always seeks to use and employ new innovations and treatments that make a difference in the nature of products to reach sustainability, as the twentieth century was characterized by a diversity of trends in the field of design, which is in dire need of difference and continuous change, which is a natural feature of development and creativity to reach the best design treatments.

This includes any change and modification of industrial products, even if they existed before, in order to reduce their negative impact on the environment during any stage of the product life cycle.

And that the main feature of sustainable design is, linking between the basic design elements of products and the attribute of sustainability, through realizing the basic meaning of sustainability and trying to create an actual balance between the functional performance of the industrial product, and the basics of sustainability, through appropriate design treatments, and the matter here "requires the necessity of Achieving a balance between what is utilitarian for something, composition or appearance with what is aesthetic in terms of matching psychological, performance and environmental goals together, and thus reveals a new look at design philosophy,

And the system of its work in a way that accepts compatibility and flexibility in ideas, theories and applications, and that it is compatible with the concepts of the times." (Al-Saadi, 2015, p. 23)

format(1)m.ecohoteltoiletries.com/eco-friendly-products/wooden

100% natural sustainable bamboo wood products, biodegradable, recyclable and as shown in Figure (1) and represents a group of personal products, whose design is not only aesthetic and functional, but has been treated in a way that achieves the principle of sustainability, by reducing Its harm to the environment, and the ability of these products to decompose, in addition to being recyclable.

This is to try to achieve a balance between environmental and design considerations together, preserve natural resources and take into account the needs of the ecosystem to reach, integrate natural systems with design patterns, to ensure the continuity of design work, and to switch to product designs that reduce the consumption of natural resources and energy, i.e. switch to designing environmentally friendly products. Completely and “creating an integrated design system to preserve the environment and interact with it to meet the needs” (Abdul Qader, 2007, p. 1), that is, to find an integrated design system to preserve the environment and interact with it to meet the needs, and that modern technologies in design and manufacturing are advanced and future,

It must be developed in a conservative and sustainable manner and try to integrate the rapid changes of these technologies with the new design orientation that preserves the environment so that there is a possibility to subject modern technology to nature.

The process of directing and creating shapes and design bodies for sustainable products is linked to “the aesthetic and functional aspects of design, in order for the works to reach the peak of creativity in the design process” (Al-Saqr, 2009, p. 21) through design treatments that make it completely different from other traditional products. Processes “the innovations resulting from intellectual perceptions of the response to a topic through scientific expertise to translate ideas and achieve harmony with reality and its compatibility with its objectives.”

(Hussain, 1973, p. 133).

The second topic: Design treatments for sustainable industrial product design:

Here, the researcher would like specifically to introduce those treatments through which we can identify the sustainable product, which are:

1- Material design treatments in sustainable product design:

The design of sustainable products depends on the selection of raw materials, which are a key element of sustainable design, and which determine the entire life cycle of the product, and are called environmentally friendly raw materials, which are raw materials whose extraction, manufacture, use, or energy required to complete any of the stages does not harm humans or the environment. surrounding environment, and it also does not provide for the internal environment because it is made of natural raw materials” (Ali, 2012, p. 5).

2- Design treatments for colors in sustainable product design:

Sustainable colors are one of the important sustainability tools at the present time, as we find that most products are distinguished by the phrase, non-toxic colour, as international brands seek and compete in the design and manufacture of various products that contain colors that are not harmful to the environment and the user, and here comes the role of the designer in choosing his materials Which he uses in the design in order to achieve the principle of sustainability, where dyes and colors of different types are used for many products, such as plastic and wood products and the colors used in coloring and textiles.

3- Design treatments for linkage methods in sustainable product design:

Some of the materials used in the process of linking products are among the environmentally harmful substances such as "industrial and chemical glue and glue, and it is considered one of the chemicals that are suspended in the air. The more sustainable the product, the more it achieves the principles of sustainability."

(The Seed, 1997, p. 45)

4- Design treatments for packaging in sustainable product design: Sustainable packaging is "the successive stages that goods and their components pass through from production sources to the final consumer, and its advantages are the disposal of unnecessary layers that are used when packaging and packaging green products." (Gamil, 2004, p. 123)

5-Design treatments for surface output in sustainable product design:

The surface output is of great importance to the processes of creating a sustainable industrial product, as the designer intends in this aspect to "load the surfaces of the body with sustainability patterns of shapes, colors, various textures, semantic and expressive symbols...etc. The individual needs to know the materials used in the surface output of products." On possession, for the individual to be aware, before choosing the product, and to ensure that the colors and paints used are non-toxic, and do not emit harmful emissions, and it is preferable that they be light to adapt to the environmental characteristics, and not dark,

"According to the aesthetic considerations that are proportional and the function of each part of the body and are compatible with the final function provided by the product, through the formal, color and symbolic that are added on the surfaces of the body using the design elements" (Bahel, Net, p. 42).

6- Environmental Label:

They are certificates placed on products to clarify that the product is a sustainable product and is less polluting to the surrounding environment, by "relying on certain standards that take into account the effects on the environment along the production chain, i.e. from raw materials to final products, With the aim of contributing to the reduction of environmental pollution, they are "cards that provide information about the green product in relation to its environmental characteristics so that the consumer can use this information when choosing between products, and its purpose is to highlight the competitive value of green products and increase the demand for them while highlighting their environmental advantages."

. (Gamil, 2004, p. 123)

7- Sustainability Techniques:

Technology is the innovation of means in the field of design and industry to achieve appropriate progress for the development taking place in all areas of life, including technical and technological tools and means for environmentally friendly design and manufacturing, which deals with the principles of sustainability to try to reduce the effects of pollution and control the sources of pollution to which the environment is exposed.

Indicators of the theoretical framework:

1- Any design work is a gathering of the main formative elements of the design work (product) in a way that depends on the skill of the designer and the accuracy of his choice of those elements to reach the main goal of the design. As for sustainable design, but in a manner that stems from the essence of the concept of sustainability, the principle of cleaner production, and appropriate design treatments.

2- The main feature of sustainable design is the link between the basic design elements of products and the attribute of sustainability, and that is done by realizing the basic meaning of sustainability and trying to create an actual balance between the functional performance of the industrial product and the basics of sustainability, through appropriate design treatments.

3- Design treatments for sustainable product design are:

A - Material design treatments in sustainable product design.

B - Design treatments for colors in sustainable product design.

C- Design treatments for linkage methods in sustainable product design.

D- Design treatments for packaging in sustainable product design.

E- Design treatments for surface extrusion in designing a sustainable product.

The eco-label.

J- Sustainability Techniques.

Search procedures

1- Research Methodology:

The researcher adopted the descriptive approach, the method of content analysis, for its relevance to the subject of the current study, as it provides the possibility in the procedures of criticism and analysis in order to achieve the goal of the research.

2- Research community:

The current research community consists of designs for the company (nau)* designed in the year (2019).

• Its design peculiarity as being sustainable products, which led to making it one of the designs that follow the principle of cleaner production in its industry, in addition to its aesthetic, functional and utilitarian qualities.

• Design diversity of products.

3- Sample search:

The researcher adopted the non-probabilistic (intentional) choice according to the research requirements, and a percentage (33%) was applied to the models of the year (2011) and the number extracted from the models was (1) models out of the research community of (3) models, which were chosen as models for analysis as they are an intervention Within the scope of the research, the researcher provided justifications for her intentional selection of models, including:

• The suitability of the models to the general research orientation and their representation of the research community.

• Availability of the objective reason for the research title and objective in each design.

4- Methods of collecting information:

In the process of collecting information related to the research, the researcher used the following methods:

• Reliable information published on the international information network (Internet).

• Arab and foreign sources and references.

• Scientific research (Master's - Ph.D.).

5- Search tool:

To achieve the objectives of the research, a questionnaire was used to determine the axes of analysis (Appendix No. 1), which included the main axes addressed by the theoretical framework.

6- Validity of the tool:

Then the form was presented to the experts, to make adjustments and to determine the validity of the tool and its comprehensiveness to achieve the objectives of the research, and some modifications were made to it by them, and thus the form is valid in terms of the inclusion of paragraphs and its validity in determining the research goal and this is what is called apparent sincerity, which represents one of the types of content validity.

7. Sample Analysis

Model(1)

General Description:

Product type: bag (multi-use)

Manufacturer: Nau

Design year: 2019

Model Description:

A multi-use bag designed to keep (mobile, official papers, cards and cash), designed by (nau) company, one of the brands known for its sustainable designs that use natural sustainable materials to make their products.

The bag is designed in a rectangular shape that doubles in size when opened, it contains some pockets on the inside to store some accessories, and it also contains three slots for cards in the back, as well as several places to store the largest number of personal items

Design Processes in Sustainable Product Design.

The model is designed and made of two materials, which are recycled polyester, and recycled wool felt, and these recycled and processed materials are the most sustainable options, as these raw materials do not require a manufacturing industry to produce them, in addition to the advantages of these two materials, the advantages of being durable And good resistance to continuous use.

In general, the design form and the material used have largely achieved the functional performance, which is the purpose for which it was designed, aesthetic and use, in addition to the characteristic of sustainability.

The design treatments of the model and the good organization of the relationships achieved between the elements of the form achieved a fit in terms of proportional to the size of its constituent elements.

The design treatments for texture also achieved the character of diversity for sustainable materials (soft for polyester) (coarse for wool) and added an additional feature to the model.

The color was treated in terms of staying away from loud and luminous colors that distract attention and disturb the eye, in addition to the harm of artificial colors to health and the environment, so these degrees of colors must be avoided in the design of sustainable products.

View results

research results:

1- The analyzed model is designed and made of two materials, which are recycled polyester, and from recycled wool felt, and these recycled materials are the most choices in the manufacture of sustainable products, as these raw materials do not require a manufacturing industry to produce them.

2- The design and raw treatments used in designing the model, have achieved to a large extent the functional performance, which is the purpose for which it was designed, aesthetic and use, in addition to the characteristic of sustainability.
3- The texture design treatments achieved the diversity characteristic of sustainable materials (soft for polyester) (rough for wool) and added an additional feature to the model.
4- The color has been treated in terms of staying away from luminous colors, which distract attention and disturb the eye, in addition to the harm of artificial colors on health and the environment.

Conclusions:

1- The twentieth century was characterized by a diversity of trends in the field of design, which is in dire need of difference and continuous change, which is a natural feature of development and creativity to reach the best solutions and design treatments.
2- Sustainability is an integrated system that depends on new measures of human achievements in their diversity (industrial, economic, social,...etc).
3- The interest of global industrial companies has increased in designing and producing sustainable products and green products, because, the sustainability feature will increase the value of their brand.
4- The world looks forward to adopting a healthy integrated ecosystem in the design of industrial products, which places a high value on human life, and the preservation of natural resources and energy consumed.
5- Sustainable industrial design is to work within the basic principles of design and within the design principles and treatments, and within the design considerations for the function and objective of the industrial product, but within an integrated system that is intertwined and compatible with nature within the sustainability approach, which takes into account the integration of considerations and systems related to sustainability and environmental requirements.

Recommendations:

1- Dealing with the multiple vocabulary in design, and trying to treat and integrate it through the idea first, and adopt the correct and studied design treatments, which are the basis on which the design processes are based to meet the advanced human needs, for industrial products that make human life better and easier, and also considered environmentally friendly.

2- Sustainable products are among the most important contemporary products that embody environmental awareness by both the designer and the consumer and the importance of the environment and natural resources through the product.
Suggestions: the aesthetic of sustainable materials in the design of a sustainable industrial product.

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RHYTHM OF FORM IN DESIGNING INTERIOR SPACES BETWEEN MODERNITY AND CONTEMPORARY

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Abstract:

Interior spaces are characterized by the presence of a design pattern in which the structural and creative composition overlaps, and the space is not free from the presence of a rhythm of vocabulary or elements through the repetition of a formal structure or several structures, taking into account those technical treatments in regular repetition in the form of patterns of functional formations as furnishing elements or decorative supplements, as Through it, harmony and coherence are achieved that we call formal harmony as a result of the formal rhythm, and dynamic and directional organizations are generated within multiple paths based on the aesthetic distribution and arrangement within the spatial content of the spatial space.

Keywords: rhythm, formal, design, space, interior, modernity, modern, contemporary, elements, technology, style, order, organization, harmony, coherence.

(Methodological Framework)

1- Research problem:

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The revolutionary developments in building technology, and the intellectual openness of architecture and interior design has brought about a remarkable development and has opened up the horizons of a new era in modern architecture that includes many trends, movements and styles, including the concept of modernity and contemporary.

Modernity is the most common modern method in various fields for its simplicity and high technology, and the essence of simplicity lies in it through formal simplification, refusing to exaggerate decoration, striving for a minimum of space treatments, adjusting colors, reducing shapes, and overcoming what carries a functional burden on the interior design in which the dialogue is manifested. Between the products of classicism, modernity and contemporary, and the predominance of methods in contemporary architecture, and the accompanying performance compatibility imposed by the inevitability of space, especially the spaces of universities, which necessitate the existence of designs that take into account the performance and functional aspect.

As well as the symbolism of the educational institution and achieving the best functional performance in line with the needs and requirements of the users of those spaces. Through what the researcher touched and her field study of the interior spaces of conference halls in Iraqi universities as an architectural design and the interior designs that carry within it a formal rhythm whose references vary between modernity and contemporary. From here, the study found a justification as a research problem and through the following question:

To what extent is the formal rhythm achieved in university spaces of a modernist and contemporary character?

2- The importance of the research: The importance of the research is as follows:

It is an addition to knowledge in the field of specialization to harmony between modernity and contemporary in interior design, which is reflected in designers and workers in the field of interior design.

3- Research objective: The current research aims to:

Revealing the formal rhythm of the interior spaces in modern and contemporary university halls.

4- Research limits: The current research is determined by the following:

A - Objective limits: a study of the formal rhythm in the design of interior spaces between modernity and contemporary.

B- Spatial boundaries: the conference halls of the Iraqi universities (Baghdad and Al-Nusour).

C- Time limits: the year 2021.

5- Define the terms:

Formal rhythm: It is the characteristic that determines the components of formal repetition according to multiple and varied directions and movements that are in harmony with the requirements of the interior space functionally, performing and aesthetically.

(Theoretical framework)

The first topic: the formal rhythm in interior design:

The act of rhythm is achieved through formal organization and through creating integration between old facts in new ways, and when new relationships emerge between old ideas or a new form appears for a group of ideas or images that did not occur if they were linked or integrated before in this way (Jean Piaget, 1976, p. 286)

The design organization in the design of interior spaces is based on two basic elements: knowledge and originality, and the second is the flexibility of transformations, as it is achieved in the context of the basic pillars of rhythm.

Flexibility and originality: it is the exploration of reality and the search for the depth of the assets, which is a necessary process to create new relationships and formulate progress through the stock of knowledge of civilizations. Originality is the new and unprecedented manifestations and the search for the new and distinct (janati, 1999, p. 61).

Flexibility of transformations: It is one of the most important forms of creative rhythm, where a fundamental modification occurs in the form of internal spaces and formations or in their function. The design was transformed from referring to the past to the future. Cultural or environmental, including what is related to techniques and construction style, and it is one of the most important transformations that reflect the flexibility in the form and its usability and the transformation of the form into almost endless images of changes (All, 1998, p. 94). Also, the formal organization is linked to the basic goal on which the designer is based. , And that the organization of its units and the confirmation of its functional and aesthetic effectiveness is based on a structure or a formal system. All the interior design complements that must be followed in terms of natural or artificial lighting, colors and materials, as well as taking into account the organization of these formations so that each of them achieves the unity of the parts with various characteristics that complement one another in a continuous circle with unified goals and results, in order to compose in their entirety a unified whole structure (Costermans, 2001, p. 144)

1- Sensory perception of shape:

Sensory perception derives its powers from those stimuli in environmental reality and the images, shapes and models it contains within the framework of design elements and what is related to visual attraction as a functional and aesthetic dimension established through the following:

A- Point and line: The point is the smallest visual unit and it is an element that attracts attention. As for the line, it is a path that consists of coordinates that represent a group of points and lines that reflect the emotions to create (the rhythm and the golden rule in design and in life. The more the line is distinctive, sharp, stringy, flexible and strong, the more the design is Completeness and stronger imagination.The line generates the formal rhythm and symbolic connotations, and the lines are generally associated with spiritual and emotional bonds, and are also linked to the path that the designer takes during his life) (Richard, 1998).

B- Movement and Extension: One of the design features is (freedom of movement in all directions and endlessly from the initial cell to the overall design, thus forming a continuous field of vision. Extension lies in the continuity of vision of the recipient and that he adapts his imagination to be able to visualize this continuity of expansion and permanent expansion with insight A conscious eye) (Baghdadi, 2020, p. 54).

C- Reduction: The repetitive patterns in modern and contemporary designs are characterized by reduction, where it is in complete harmony with modernity and contemporary, because (reducing the design to many forms is not related to space and time, it is a mental reduction in some cases to molecules to become wholes.

Reduction in its modern concept is to manipulate the design freely so that the design becomes a contradiction rather than a simulation, and through reduction, the interior designer can challenge the free and form subject to the logic of transformations and layers.

D- Outward and inward: The outward is everything that appears and is perceived by the senses, and the inner is everything that is hidden and absent from the outward. The zahir and the batin form an integrated unit in the awareness of the recipient, so the creativity of design comes on the basis of a consistency between the esoteric and the external (Schumacher, 2020, p. 399)

If there are sensory perceptions of form that can be realized through the idea of design within the interior space, then shadow and light are considered among the sensory perceptions because of the possibilities of formal manifestation, the statement of surfaces, and the apparent reflection of the texture of shapes and materials.

2- Types of formal rhythm in interior design:

Rhythm is one of the sensory perceptions of the designed shapes. There are types of rhythm at the level of interior space design that deepen the visual aspect and the process of attraction, which are:

A- Variable Rhythm: Variations in the elements or intervals are gradual, which gives an imaginary rhythm to some parts.
B - Contrasting rhythm: it has more than one rhythm whose directions differ from each other.
C- Layered Rhythm: More than one level overlaps with each other, each of which has a rhythm that differs from the other, thus one of the two levels works in the background or in the foreground of the other, or a level overlaps with foreground or background elements.
D- Hidden Rhythm: It takes place when all the systems of relationships are repeated, not just the clear shapes and colors.
E - Directional rhythm: in which the rhythm changes in a vertical, horizontal or inclined plane.
F- The main rhythm: the principle of rhythm is located on the main level in the interior spaces and may contain other values such as internal, external or secondary rhythm (Muhammad, 2008, pages 112-120).
The goal of the interior design is to achieve the effect of the formal rhythm that the users of the interior space feel and the feeling of the presence of the design according to the content of the formal rhythmic reluctance is to achieve tangible diversity in a way that guarantees the content and meaning observed through activity or effort according to the creative process (which led us to it or led to its formation and on On this basis, designs acquire their true value through their actual, objective presence in people's lives and not through that creative activity or the process that led to their achievement) (Abdullah, 2008, p. 58)

The second topic: Interior design between modernity and contemporary:

Modern architecture is an architectural style that relies on building techniques and everything that is new and innovative, especially when using glass, steel and reinforced concrete materials appropriately, as the idea of form was launched according to function, with its contemporary distinction in embracing the simplicity of products. While (ornament was rejected in the first half of the twentieth century and became dominant after World War II until the 1980s as a style of modernism and when it was gradually replaced by the main style of corporate and corporate buildings with postmodern architecture) (Tietz, 1999, p. 6)
Technology, engineering and building materials in the nineteenth century resulted in new treatments with a symmetrical formal rhythm and a declining rhythm, as well as a desire to move away from historical architectural styles and invent a new functional design. and longer. The molded glass process was invented in 1848 and secondly, the possibility of making very large windows. The Crystal Palace (by Joseph Paxton) at the Great Exhibition of 1851 was an early example of glass-and-iron-panel construction, followed in 1864 by the first glass and metal curtain wall.
Together, these developments led to the construction of the first steel-framed skyscraper, the ten-story Home Insurance Building in Chicago, built by William Le Baron Jenny in 1884. The construction of the

iron frame of the Eiffel Tower, then the tallest building in the world, captured the imagination of millions of visitors to the 1889 Paris World's Fair (Bony, 2012, p. 16)

The era of modernity is that intellectual revolution that took place in the West alone over the past four centuries and the transformation into a new vision that was based on the ruins of the old vision of the world and through the creative dialectical conflict with it, but all of them emerged from a single breakthrough for the freedom of the individual and society and the realization of the individual’s human personality on this The land is far from all forms of intellectual, security and ideological terrorism and from all forms of tyranny, summons and censorship (Al-Kubaisi, 1989, pg. 60).

The connection of modernity with time is developing from its concept, for example, that the word “fashion” has undergone a change in meaning. In the past, it meant regularity in the movement of change and the possibility of establishing a prior intuition for the changing episodes, but today it defines what cannot be guessed and the unexpected magic that spontaneous artists invent. About modernity the absolute liberation of the mind, that mind that does not succumb to the facts of the world as it is. That is why modernity is based on the rejection of postulates, the desire to discover and test everything, and the audacity to tackle prohibited topics. Nothing is sacred before the mind (Al-Khafaji, 2003, p. 9)

One of the reasons for the emergence of the modernity movement is the revolution in which Europe severed its connection with religion and the church and rebelled against it and revolted against its spiritual authority, which for them was a frightening nightmare and a sword hanging over their necks, fighting to call for true science and respect for the human mind and thinking, and to destroy today with rebellion shovels what they built yesterday. We find them changing through the intellectual and literary sects that marked them with its stamp, printed them with its character, and colored them with its directions (Abdullah, 2008, p. 207).

The design forms in the era of modernity were also characterized by an exaggerated influence on the design production and modernity as a western bourgeois concept that gave the idea of design its tendency from the beginning. With modern science and technology (Abdullah, 2008, p. 180)

And modernity believed that it had won when it adopted the view that “all architectural problems are solvable through modernity” and that there is no concern if we abandon the aesthetic history of architecture. Rogers himself does not see this saying as correct, but rather believes that “the slogans of modernity have become dogmatic and are nothing but a justification for the economic decline that modernity is trying to save.” He adds, “Modernity contained fatal weakness factors as well as high potential.” Some architects attack modernity for its elitist tendency and its tendency to destroy the city, even though they are representatives of modernity (Wikipedia, 2015, net page).

First: The modern materials that were used in modernity:

The floors of the interior space were used to cover them with wood designed with geometric formations in most cases, and the walls and ceilings were divided with light elements in the form of stripes and contrasting materials. Also, geometric formations of black color were used to surround other different materials forming a kind of emphasis and highlighting of the elements through the contrast between them, as materials such as tortoise shell appeared. And leather and wood, exotic in the details and various interior accessories. As for colors, it was limited to the use of a limited number of colors, such as blue to denote electricity, and black and chrome colors that were associated with new technology.
As well as the use of wall sculpture and metal details that were emerging from the wall elements, which made the interior design self-sufficient in its technical details. From here, we find that modernity employed materials of a strange nature in terms of color, texture, and shape, and also expensive, which carried with it its own luster and adopted rhythm in the form as a means of linking between The parts that reside within the inner space (Al-Jubouri, 2013, p. 6).

1- Modernity and its reflection in design:

The main objective of modernity was to develop low-cost products that could be acquired by the general public, while maintaining high levels of performance functionality, as many theoretical and applied works were carried out based on the concept of the functional principle, especially the designs of interior spaces, which was often included for destinations A social view that aims to control the life and practical conditions, and to take into account the questions that arise from the requirements of the need seriously, as functionalism was often a merger of two important factors in the design: it is the marriage between technology and methods of showing materials and social conditions, in order to serve the general needs of people at all. The broad scope and requirements of social planning (Habermas, 2003, p. 33).

2- Contemporary and its reflection in design:

Researching the folds of modernity and its features is not one of the things that are easy to talk about, as we might say the saying and it coincides with people's pure acceptance or that it does not coincide with this acceptance. Because the fabric of life has many threads, in which it is similar and in which it is divergent, as you hardly describe the era as a general feature until you meet with evidence that you spend it. Contemporary means in the set of variables witnessed by societies at all levels. It is also used to refer to various stages of transformations resulting from scientific and technological innovations to be the spirit of modernization that represents its various manifestations as novelty in creativity in terms of form and content.
Freedom from the captivity of imitation and imitation and an expression of the spirit of the age with its dimensions, events and themes. It reflects the penetration of the interior designer in his time and his

connection to the life around him, an organic and fundamental link, and novelty and renewal does not mean the intrusion of the new into the existing. Another system, more complex and more severe, in which the entrance adapts to the existing and becomes part of the whole new system. Therefore, the new is necessary towards building and continuity (Al-Bayati, 2021, p. 13).

The history of contemporary style begins in the middle of the twentieth century. The basis of its appearance was the Scandinavian style, airy construction and simplicity. Small rooms in combined and single apartments are decorated modestly and concisely, they are appropriately decorated and mass-produced furniture in the interior. As the decorative elements that managed to obtain the appearance of the interior decoration,

The architecture of the interior spaces, which depends on contemporary, is considered one of the standard things for the multi-storey building, and this is embodied in the interior design by creating the design in a contemporary style, as modern high-quality materials are taken as a basis and are sustainable in harmony with the environment. It is better if they are made of natural materials and meet the requirements of environmental sustainability. These methods include contemporary components in use, including:

1- A polished natural stone slab that is used for flooring, wall decoration, such as panels and ceiling.
2- Natural stone, marble, granite and limestone that spreads the floor, and panels in the kitchen and bathroom, as well as the use of homogeneous slabs.
3-Glass It is made artificially, but consists exclusively of natural ingredients.
Lighting appliances, furniture and decorative and decorative parts are made of them
4- Genuine leather is mainly used as upholstery for upholstered furniture.

Second: Contemporary intellectual transformations in interior design:

The transformation in interior design is a feature of any era that diverges and overlaps in the fabric of its civilized construction in its direct or indirect form. Sometimes it is instantaneous and expected, and other times it is radical and sudden and generates a boom and a coup, and some of it is related to a new scientific discovery that adopts a new performance mechanism or a material discovery that requires the creation of designs The new design is subject to many influences that require transformation to keep pace with the rapid developments that have become difficult to predict and their amazing qualities on different levels. However, transformations in general sometimes require gradual and organized solutions in the form of sequential stages, so as not to generate shock and meet the new design with rejection (Omar, 2004, page 59)

We can show that contemporary ideas are real and effective, and they come through historical and civilized authenticity, which stir in us all the factors and elements that create an active, influential and witness society. Authenticity here does not mean a return (in the temporal sense), but rather it means adopting a civilized pattern that provides us with strength and knowledge, and is capable of achieving the civilizational aspirations of the Arab and Islamic worlds. In a word, history constitutes a comprehensive cultural-social map, and our civilized view of it turns it into a driving force to achieve more glories, prosperity and progress.

We do not only sing about the glories of history, but we try to add to it, drawing inspiration from the spirit, principles and values that made that glorious history... The past does not mean escaping from the present, its responsibilities and challenges (as some claim), but rather it is a conscious process to achieve existence... Because the past is what The awakening of the present and its promise.. and the human group that is separated from its history or past, is forced to amputate its psychological, cultural and social feeling, and civilizational alienation will lead (Mahfouz, 2013, net page). For the originality, history, customs and traditions that characterize the current designs.

Third: Contemporary materials used in interior design:

A- Stone: It is characterized by ease of formation in the construction process, such as bricks when used in making stairs or in interior or exterior decorations on walls to add colors and decorations.

B- Alabaster: There are two types of natural and artificial alabaster, and it is characterized by its beautiful surfaces and the diversity of its colors and veins. It is used in places where there is a lot of movement, such as corridors, entrances, display places, entrances and stairs, as is the case in many museums, art galleries and hotels

C- Ceramic: It was used in the ancient Islamic art, and it is characterized by its multiplicity of colors, shapes, decorations, durability, sound insulation, unaffected by water or moisture, color stability and ease of cleaning.

D- Mosaic tiles: Like ceramic, they are frequently used in the floors and walls of bathrooms, kitchens and toilets. They are also used in places where there is a lot of movement, such as halls and corridors, in addition to making pieces of furniture for the beauty of its colors and its different shapes and ease of cleaning.

E- Wood: There is wood of all kinds, shapes and specifications that is natural extracted from trees, and what is factory used in walls, floors or interior decorations.

F- Plaster: Or gypsum, which is one of the hard minerals that are extracted from the ground.

G-Aluminium: It is one of the types of metals such as iron and copper. It is the most important element in the manufacture of internal sections in homes such as windows and external doors.

It is used in the manufacture of furniture due to its light weight, ease of cleaning, strength and flexibility in use.

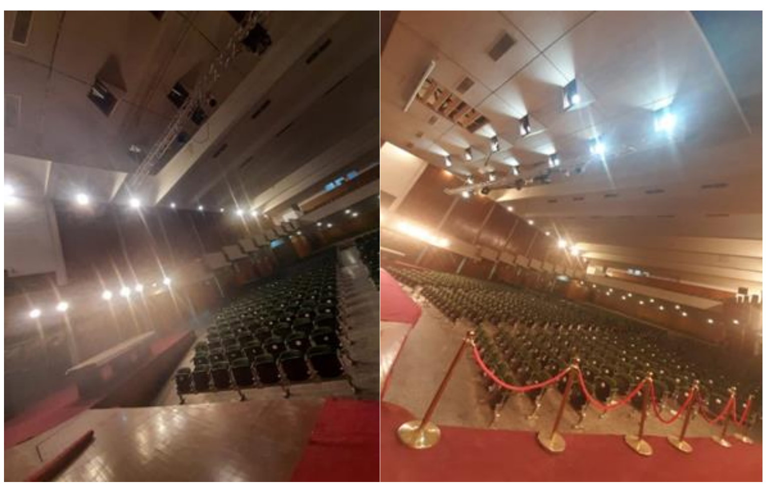
H- Glass: There are many types of glass, some of which are transparent and some are semi-transparent, with luster, heat-formed, colored and covered with aluminum.

i- Mirrors: They are frequently used in modern interior designs because of their role in increasing their distinctive effects and visual nature, as they give a reflection of larger spaces of the place (N, 2020, net page).

The importance of these materials comes from their functional and performance effectiveness in adapting them according to a formal rhythm that falls under the research of materials and raw materials technology that contribute to adding aspects of an endeavor of human communication and technology on the one hand and on the other hand the reflection of advanced technologies with these materials through their optimal use.

(Description and Analysis)

Model (1)



Al-Hakim Conference Hall at the University of Baghdad.

Source/Photo taken by the researcher

Description:

1- Vertical delimiters The walls are wooden with white square pieces that extend along the wall to reach the platform.

2- The floor is alabaster, dark blue in color.

3- The roof is made of white cement panels.

4 Seating units arranged streamlined in a dark green color.

5- The lighting is distributed on the sides of the hall, and there is a central lighting centered over certain parts of the hall, especially the stage of the show.

6- The show theater is a wooden platform covered with red carpet.

7- The platform for presenting the ceremony or conference is made of teak wood.

8- Supplements of the interior design, which is the logo of the University of Baghdad, distributed on the walls of the hall.

9 The presence of an iron wire to suspend the focused lighting, which facilitates the process of shedding light on it.

10 The presence of openings for ventilation and sound in the horizontal ceiling limiters.

Analysis:

First: the formal rhythm of the inner space:

The formal rhythm of the inner space is an influential force in the structure of the internal composition through the transformations of the formal rhythm due to movement and movement appropriate in terms of time and space. A contradictory formal rhythm through the use of multiple materials within the interior space according to a pattern subject to a system after making adjustments

As for the spatial distribution, it shows that the distribution is linear for the formal diversity, as the arrangement of the seating is linear and sequential with the presence of seats in the middle of the hall space, and the formal rhythm as a form of energy is linked to dependence, balance, symmetry and dynamism.

The formal rhythm within the space of the halls is also characterized as being uncomplicated and that it is a space characterized by simplicity, accuracy and clarity.

As the formal rhythm varies through complexity and simplicity, as the simplicity was in the use of colors and shapes as well as texture, distances and size as well. As for the complexity, it was in the use of several patterns at the same time as well if we noticed that the rhythm is achieved in the vertical and horizontal determinants, but in terms of complements, they are considered inappropriate as well As for the furniture, it needs to be modified in addition to the interstitial spaces and the interstitial elements as well.

Second: The formal and performance requirements in the interior spaces:

The performance requirements in the interior spaces are determined by that they are symbolic performance in a specific proportion, but from the aesthetic point of view, they are inappropriate and expressive in varying proportions as well, as one of the characteristics of modernity schools is to move away from beauty and attention and resort to the performance function of the interior spaces.

While the movement in the inner space is represented by the fact that it is characterized by an external environment that is characterized by modernity, clarity and complexity in the relations that move towards the center, where the open rhythm is used towards the formation lines from the center, the rest of the inner space to convey the dynamism.

Among the performance and formal requirements in the interior spaces is that the shape appears through not employing appropriate decorative units and the use of straight lines was free. As for the formal diversity, it was somewhat limited due to the nature of the distance that prevailed. As for the surface finishes, they were also specific if we look at the use of colors We found that the colors were very specific and there was no diversity in colors within the hall spaces.

Al-Nisour University Conference Hall / Model 2

Description:

1- The vertical parameters are walls in teak colors that contain windows in two walls of the hall.

2- The floor is alabaster in beige color.

3- The secondary roof consists of square pieces of white and blue color.

4 The distribution of seats is linear and divided into three parts. Each part contains three seats in blue, and there are paths for movement between the seats.

5 lighting units directed from the ceiling.

6 Design complements include decorative panels and decorations around the windowsills.

7 The furniture in the hall space consists of:

A- Seats covered with blue cloth containing armrests on both sides of the seat Z

B - Tables in the front row of the hall in front of the front seats in walnut color g

C - Single seats upholstered in leather, which also have beige armrests.

D - A wooden table in the center of sovereignty in the hall is made of teak.

(e) A wooden table for conducting research, or designated to start an occasion.

F- A notice board to announce the date of a specific discussion or the appointment of a specific conference.

Analysis:

First: the formal rhythm of the inner space:

When realizing the variables in the interior space in all its details, we note that there are logical solutions that reflect the values of contemporary thought in the treatment of interior design, and that the formal rhythmic transformations due to movement and movement are physical and sensory when looking at them, in addition to that the formal system is a monotonous rhythm of the free type and is not subject to a specific system.

As for the spatial distribution, the arrangement of the hall was in a linear manner, with a move away from the aggregate, grid and radial distribution, as the formal rhythm as a form of energy is linked to balance and symmetry, while the formal rhythm is distinguished from the aspect of form to simplicity, clarity and communication with other components through the formation of harmony between the units located within The interior space of the hall.

The formal rhythm varies through complexity and simplicity in terms of form, while we find there are multiple shapes and specific colors. As for the texture, there are several materials used inside the hall, and the distances were small compared to the size of the functional space and the size as well.

There is a complexity in the use of several patterns and functions at the same time. With regard to the achieved rhythm, it is suitable in the vertical with the horizontal determinants and is compatible with the complements and furniture. As for the inter-spaces and the inter-elements, they need to be modified.

Second: The formal and performance requirements in the interior spaces:

The performance requirements in the interior spaces of the halls can be determined by considering them as spaces devoid of aesthetics and also devoid of expressiveness, but they are symbolic performance spaces, as the movement in the interior space is represented as having a simple external perimeter and simplicity also in the direction within the internal relations towards the center, either in terms of the external appearance in The interior space where the use of straight lines was generous and was free, with a specific morphological diversity. As for the surface finishes, they need accuracy in work and the use of time was specific.


Chapter Four (Research Results)

First: The results of the research: The analysis showed the models according to the axes as follows:

The first axis: the formal rhythm of the inner space:

1- The compatibility of the two models through the transformations of the formal rhythm due to the movement and movement, which are two important factors in the functional and performance formation.

2 The action of the formal system was achieved through the rhythm of the vocabulary of the lines, the distribution and the arrangement as a monotonous rhythm in the two models, and the formal formation showed a contradictory rhythm and an increasing rhythm.

3- The spatial distribution came as a design that was achieved in terms of linear and synthesis due to the formal organization of the traditional modernist view as a formal rhythm in the two models.

4 Rhythm appears as a form of energy with the effectiveness of balance, symmetry and repetition in the dynamic dependence according to the spatial proportion of the distribution of furniture from the platform and seats to the sitting movement

5- Rhythm was born, specifying the performance requirements in the interior spaces of two models as a relative verification in terms of aesthetics) and it lacks the expressive aspect as a relative and relative realization in the two models from a symbolic point of view because they contain the logo within the composition of the platform.

6- The variation of the formal rhythm appeared in both models through the vertical and horizontal determinants in (floors, ceilings and walls), which enhances the effectiveness of the functional formations of rhythm for organizing and arranging the total space as outputs of modernity in its style and monotonous style, while the outputs of dealing with the distribution of lighting and appearance treatments of materials as contemporary outputs It fits the modern look in the design.

7- The formal diversity of materials and raw materials came in covering the external appearance of the decorative and complementary elements as a visual texture in which the contemporary appearances vary within an aesthetic combination.

Conclusions:

Through the stated results and in order to achieve the aim of the research, we conclude the following:

1- Counting time and place as two basic variables in the shifts of rhythm due to obsolescence and change in cultural systems as well as technology and casts its shadow on the design in both modern and contemporary directions, and this is reflected in the effect of sensory transformation effectively in contemporary designs while it is slight in modern designs.

2- The type of rhythm was associated with the design direction, as the monotonous rhythm is a condition in modern designs, while the diversity in the rhythm, not monotonous, free, increasing and not subject to a system of the features of the formal rhythms of the contemporary

3- The space distribution is related to the performance of the space, and since the space is performative in the basic image (conference hall), the linear and aggregate distribution in the form of rows is the appropriate distribution to achieve the purpose of the space.

4- The formal rhythm in modernity designs achieves full energy through the equilibrium between its components as well as the dynamism achieved through the interrelationships in the design formally and physically in the modern and contemporary directions.

5- Formal rhythms in modern designs are characterized by simplicity, accuracy and clarity through the shape and its phenotypical effects, while the rhythm of form in contemporary designs tends to complexity, ambiguity and secondary linkage and aims to attract attention and attraction.

6- The rhythm is represented mainly by the horizontal determinants represented by the ceiling and less important by the floor and furniture in the direction of modernity, while the contemporary trend is linked between the determinants, complements and furniture in a balanced way.

7- The performative and formal requirements in the spaces of modernity are related to functional performance and its aesthetic and neglects the symbolic and expressive sides, while contemporary is linked to the expressive and symbolic side, which is the source of beauty, and functionalism is a product of design.

8- The movement and its trends are formal and performative, and the dynamism it achieves are among the contemporary outputs, while the movement in the direction of modernity is a performative act from the outside towards the inside, and the dynamism is the act of positive space.

9- The shape and its rhythms appear in the direction of modernity through straight lines and simple geometric shapes, while the contemporary formal rhythm is not linked to the limits of the type of lines and shapes.

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EVALUATION OF STRENGTH, FLEXIBILITY AND BALANCE IN OLDER ADULTS THROUGH FUNCTIONAL TESTS AND APPLICATION OF A PROGRAM OFPHYSICAL AND RECREATIONAL ACTIVITIES

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Abstract

Aging diminishes the freedom and independence of older adults. Muscle strength, flexibility, and balance are improved with physical and recreational activity. This research aims to demonstrate the impact of the stimulation of these capacities through a program of physical and recreational activities in older adults in the city of Quito, the population of this study was made up of 50 people, of whom 39 are female and 11 males, aged between 65 and 81 years old, the methods applied to assess their physical capacity were five

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tests functional. Subsequently, the program of physical and recreational activities was applied, finally a final assessment test was carried out on the study group, to know what was the effect of the applied program, functional tests that projected significant results both in strength, flexibility and balance of older adults, Through the statistical analysis in the T Student and Wilcoxon tests, which evidenced a significance value of $p < 0.05$, concluding witha confidence level of the research study greater than 95%. It is suggestedthat the intensity of physical activity should be systematized and monitored so that it is possible to achieve the results and benefits of an active life.

INTRODUCTION

Knowing that aging is related to a decrease in muscle strength and power and, therefore,with a decrease in functional capacity. This reduction in muscle strength with age, it is mainly due to the loss and reduction of the size of type II muscle fibers and the decreasein the maximum voluntary neural activation of the muscles (Peterson, Rhea & Gordon, 2010; Reid & Fielding, 2012).

Likewise, other important changes occur with aging, the decrease in cardiorespiratory capacity (since maximum cardiac output decreases due to the reduction in maximum volume and heart rate) and the process of sarcopenia (which compromises the use of oxygen captured by reducing aerobic and functional capacity). Some studies suggest a decrease of 0.5 ml. (kg.min.year) -1 (Romero-Arenas, Martínez-Pascual & Alcaraz, 2013) of maximum oxygen consumption (VO2 max) in healthy older adults.

These alterations generate some functional modifications such as a decrease in stability and muscle strength, mainly in the lower limbs (Maki, 1997; Reid & Fielding, 2012). It is known that physical activity during adulthood and in particular in older adults contributes to improving muscle strength, stability, cardiorespiratory endurance, postureand to maintain stable some physical conditions such as flexibility, coordination and agility, which helps to maintain the independence and autonomy of the person (Reid & Fielding, 2012). Physical activity in older adults is one of the concrete alternatives to maintain physical well-being and, even more, mental well-being (Albala, et al., 2005).

The changes that older adults present are undeniable, ranging from biological, physical, psychological and social changes, presenting deterioration in some capacities at all levels, it is essential to assess the special needs for comprehensive care and support at this important stage of life.

Within the aging process, changes occur both in the organic sphere and in the mental and social sphere. The general physiological tendency that occurs during the aging process leads to sarcopenia and a decrease in functional efficiency. The changes that predispose to falls in the aging process are associated with several factors, among whichwe can name: the decrease in muscle strength, increased body instability.

Previous studies show that older adults have a lot of variability in gait pattern mainly due to a decrease in stride length and increased frequency as well as increased instability during gait. (Davies, Greig, Jordan, Grieve & Lipkin, 1992). These alterations raise VO2 (Davies et al., 1992) and the energy consumed per unit of distancetraveled (C) (Schmidt-Nielsen, 1972).

Physical activity refers to all movement, even during leisure time, to move to and from certain places, or as part of a person's job. Physical activity, both moderate and intense, improves health (WHO, 2020).

As an older adult, one of the most important things you should do for your health is tobe physically active on a regular basis. It can help prevent many of the health problems that seem to come over the years. It also helps strengthen your muscles so that you can continue to do your daily living tasks without having to depend on others (CDC, 2020).

There is conclusive scientific evidence, based on well-conducted studies, that physicallyactive adults 65 years of age and older have better cardiorespiratory function, a lower risk profile for disabling diseases, and lower rates of chronic noncommunicable diseasesthan inactive people. On the whole, the benefits of the physical activity recommended here outweigh the possible harms. Certain setbacks, such as musculoskeletal injuries,are common, although generally mild, especially when the exercise is of moderate intensity (eg, walking). The inherent risk of adverse events can be greatly reduced by progressively increasing activity level, especially among older sedentary adults. A progressive increase in physical activity, interspersed with periods of adaptation, appears associated with lower rates of musculoskeletal injury than in cases of abrupt increase in activity (WHO, 2020).

Physical activity is considered to be one of the strategies for the elderly to reduce risk factors and optimize lifestyles. The positive effects of physical activity in the elderly areshown below.

The main scientifically proven benefits are: decrease in body fat, increase in muscle strength, flexibility, prevention of falls; There is also an improvement in self-esteem, a decrease in anxiety, insomnia, an increase in cognitive functions and socialization(Bautista, 2008).

There is no doubt that exercise can be used to improve people's health, it should be considered that physical activity should be progressive where it includes aerobic activities and muscle strengthening training (José Alberto Ávila-Funes, 2004).

Physical and recreational activities planned for this population, which promote improvement in muscle strength, flexibility and balance, increased cardiorespiratory capacity and stability contribute to the better performance of all their daily tasks, even the most basic, such as walking. Independence in your tasks and the increase in walkingduring your walks help prevent and / or reduce the effects of various cardiovascular diseases, type II diabetes mellitus, obesity, high blood pressure, depression amongothers (Manson, Skerrett, Greeland and Vanlallie, 2004).

METHODOLOGY

This study had an observational and cross-sectional design. The study sample consisted of 50 participants between the ages of 65 and 81, living in the city of Quito and attending a gerontological center. The total number of participants was divided into two groups of 25 people each, according to their level of physical activity. The active group was defined as the one made up of the participants who reported performing at least 150minutes of moderate weekly physical activity (the physical activities performed by the participants were: hydro-gymnastics, yoga and walking); and sedentary group to participants who reported performing less than 150 minutes of moderate weekly physical activity and did not perform intense physical activity.
Initially they were invited to participate, then the proposal was presented to them and they were explained how they should carry out the different tests. Finally, with the people who decided to participate in the study, the place, day and time where the measurements will be carried out were agreed, taking into account the availability of theparticipant and the team of researchers. The exclusion criteria were: Heart failure; Mellitus diabetes; history of recent respiratory infection; chronic obstructive pulmonary disease; recent myocardial infarction or cardiovascular surgery (in the last 3 months); recent neuromuscular disease (in the last 3 months); previous history of lung diseaseand / or smoking (in the last 12 months), transplantation of any organ, serious osteoarticular injuries.
The evaluations were carried out in a single day, first some measurements of theparticipants were taken and then the functional and walking tests were carried out. The study followed the ethical standards of the Declaration of Helsinki (1975), The sequence was as follows: signing of the informed consent, anamnesis, measurements of mass, height, length of the lower limb, blood pressure, heart rate, strength of the lower extremities, flexibility of the lower extremities, agility or getting up tests walking test of6 minutes and VAS in a random way with the use of a card to record all the data.
The following was used for physical measurements: weight measurement obtained with a balance (Beurer BF480); height obtained with a tape measure attached to the wall; blood pressure through the Premium BPLP200 blood pressure meter; abdominal circumference measured with an inextensible tape measure at the level of the umbilicus,midway between the costal margin and the iliac crest (anterior superior iliac spine) in standing and expiration; Circumference of the hips measured with an inextensible tape measure at the level of the gluteal prominence, the waist-hip ratio was calculated as the ratio between the waist and hip circumference; the length of the lower limb for the estimation of the Vóptima was measured with a tape measure from the level of the greater trochanter to the ground (Alexander, 1989).
For the evaluation of the functional tests, the materials used were: 43 cm high chair, stopwatch (CASIO HS-70W-1); meter or tape measure and cones.

Functional tests performed

a) Strength test for the lower extremities:

Tests of getting up and sitting in the chair (sit-to-stand test). Test is performed toquantify the performance of the muscles of the lower limb. The participant began sittingin the middle of a chair of standard size (43-44 cm in height), with his back straight and leaning against the back while keeping his arms crossed at the wrists and leaning against his chest. The researcher gave the order to start the test. At the “go” signal, the participant had to reach the full standing position, sitting down again afterwards and repeating this action at the highest possible speed. The maximum number of repetitions performed in 30 seconds that the participant managed to achieve was considered as the result of the test (Csuka and McCarty 1985; Guralnik et al., 1994; Guralnik et al., 2000).

b) Lower extremity flexibility test (sit and reach test):

It is commonly used to assess spinal flexibility and hamstring length. The participant stood on the edge of a standard size chair (43-44 cm high). One leg had to be kept bent with the sole of the foot resting on the ground while the other was stretched as far as possible along the hip line. The heel of the leg that was stretched should always be in contact with the ground, and the foot flexed at approximately 90o. At the "go" signal, the participant gradually had to try to reach the tip of the foot with his arms, stretching both with his hands placed one on top of the other (index fingers one on top of the other)trying to get as far as possible to reach or exceed the big toe. The distance that was taken into account for the test was the one that the participant could reach and maintain for at least 2 seconds. It was made for both sides (right and left). The result could have positive or negative values depending on whether or not the participant was able to reach the tip of the foot with both hands (Jones, Rikli, Max, & Noffal, 1998).

c) Flexibility test of the upper extremities (back scratch test):

The participant, standing, placed one of his hands over his shoulder, with the elbow pointing upwards, the fingers extended with the palm of the hand parallel to the back and trying to slide it as far as possible along his back. At the same time, the other handis placed around the back and the other hand should be reached or passed. It was made for both sides (right and left). The final result was the distance that exists between the heart fingers of both hands or the overlapping distance between them (Bautmans, Van Hees, Lemper, & Mets, 2005).

d) Balance test: Test of getting up, walking (2.44 m) and sitting again (Time Up & Go).

The test is used to measure the ability of participants to perform sequential locomotive tasks including walking and turning. The participant had to remain seated in the middle of a standard chair, with your back straight and your hands on your thighs. The dominant leg slightly forward over the other. At the "go" signal, the participant had to get up from the chair, walk as fast as possible towards a cone that was placed 2.44 m from the chair, go around it on either side and sit back in the chair. The final result of this test was the time required from the start signal until the moment when the participant returned to sitting in the chair (Furness, et al., 2014).

e) Single-leg stance test:

It is used to quantify the ability to maintain static equilibrium. The participant had to stay as long as possible supported on one leg with the arms at the sides of the trunk. Thetime in which this position could be maintained until one of the following situations occurred was measured:

a) that the supporting foot changed position,

b) that the raised foot touches the ground, c) that the arms were detached fromthe trunk, and/or.

d) that the raised leg touched the supporting limb (Harrison, Duenkel, Dunlop, &Russell, 1994).

Protocol of the gait tests carried out

a) Walking endurance test:

Called Test of the 6 minutes (six minutes' walk test). The 6-minute test is a submaximaltest used to assess aerobic capacity and endurance. This is a test adapted for older people in order to assess their aerobic endurance (important for walking distances, climbing stairs, shopping, etc.). It consists of determining the number of meters that a person can travel around a circuit in 6 minutes (Enright, 2003). To compare the estimated measures of the distance traveled in the 6-minute test, three different equations were used from those that have been proposed for this purpose in otherstudies (Enright and Sherrill, 1998; Troosters, Gosselink and Decramer, 1999; Enright, 2003). No equations were found for the elderly population of Quito, for this reason this study proposes intra-group measurements and comparisons through these three equations.

b) Self-select walking speed:

Through the VAS it is possible to estimate the running economy. Speeds close to 4-4.5 km.h-1 result in lower energy consumption while driving, which is the optimal V (Cavagna et al., 1977). To carry out this measurement, the participant was asked to walkat a speed that is comfortable for him in a 15 m corridor. He had to repeat the tour three times, beginning with a verbal order from one of the investigators. The researcher

measured the time in which the participant completed the 15 m. The initial and final two meters were discarded, to ensure that the walking speed was measured in a stable phase without acceleration and / or deceleration. Thus, it was possible to know the participant's VAS (Bona, et al., 2017a).
VOptimal estimated by the Froude equation: It is an estimative measure of the VOptimal of gait through the length of the lower limb. For this we use the equation of the Froud number (nFr - Alexander, 1989):

v = velocity g = gravity L = Length of lower limb

nFr = v^2 / gL

nFr = 0.25 (dimensionless number) for the VOptimal of gait, it is possible to estimatethe VOptimal for each subject.

Statistics: The values are presented with descriptive statistics, mean and standard deviation. Normality was tested through the Shapiro-Wilk test for all variables. To compare the differences between the two groups (active and sedentary), the student's t- test was used for independent samples. For intra-group comparisons, the student's t test was used for dependent variables. The statistical package used was PSPP 1.01, free software with a p <0.05.

Results and Discussion

Table 1. *Characteristics of the elderly (participants)*

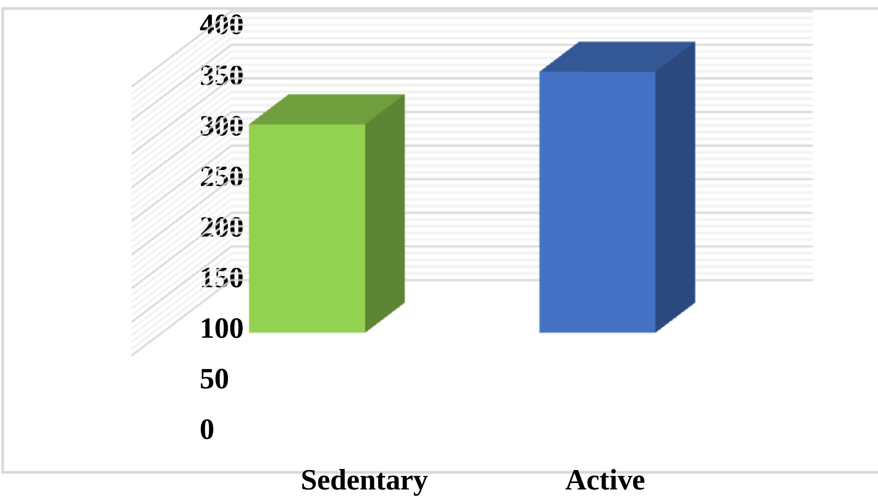
	Sedentary lifestyle	Active	P value
Individuals (N)	25	25	-
Age (years ± SD)	75.8 ± 6.1	65.7 ± 9.7	0.24
Weight (kg ± SD)	69.0 ± 7.24	70.2 ± 11.11	0.31
Height (m ± SD)	1.6 ± 0.04	1.60 ± 0.08	0.95
Sex	9H/16M	14H/11M	-
Systolic BP (mmHg)	124.7 ± 11.60	127.1 ± 16.40	0.67
Diastolic BP (mmHg)	80.1 ± 12.11	74.6 ± 12.43	0.27
Abdominal Circumference (cm)	92.3 ± 5.7	100.3 ± 6.15	0.05
Hips circumference (cm)	92.9 ± 6.3	100.3 ± 8.6	0.48

Waist- Hips Index (a dimensional)	0.9 ± 0.05	1.0 ± 0.06	0.01
Length MI (cm)	0.91 ± 0.03	0.91 ± 0.09	0.95
Estimated VOptimal nFr (m.s^{-1})	1.31 ± 0.02	1.31 ± 0.08	0.99

Source: BP syst is systolic blood pressure; PA dist. is the diastolic blood pressure; Long MI is the length of the lowerlimb; VOptimal estimated by nFr is the optimum velocity estimated by the Froude equation (nFr - Alexander, 1989).

The comparison of the evaluation of the walking test in the two groups evaluated, the sedentary and the active, is presented below.

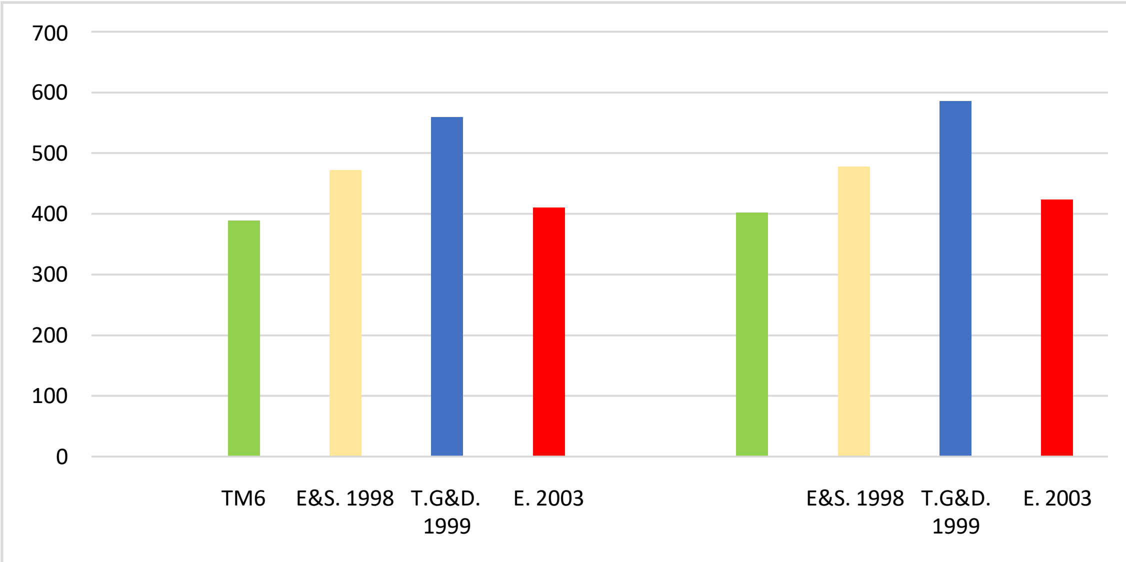
Figure 1. *Results of the walk test*



Source: distance in meters for the two groups evaluated: sedentary group (green) and active group (blue).

Figure 1 shows the average with standard deviation for each group evaluated. The difference in meters found was only 16.02 m. between one group and the other. Which does not represent a statistically representative difference.

Figure 2. *Intra-group comparison through three different equations for the six-minute walktest.*



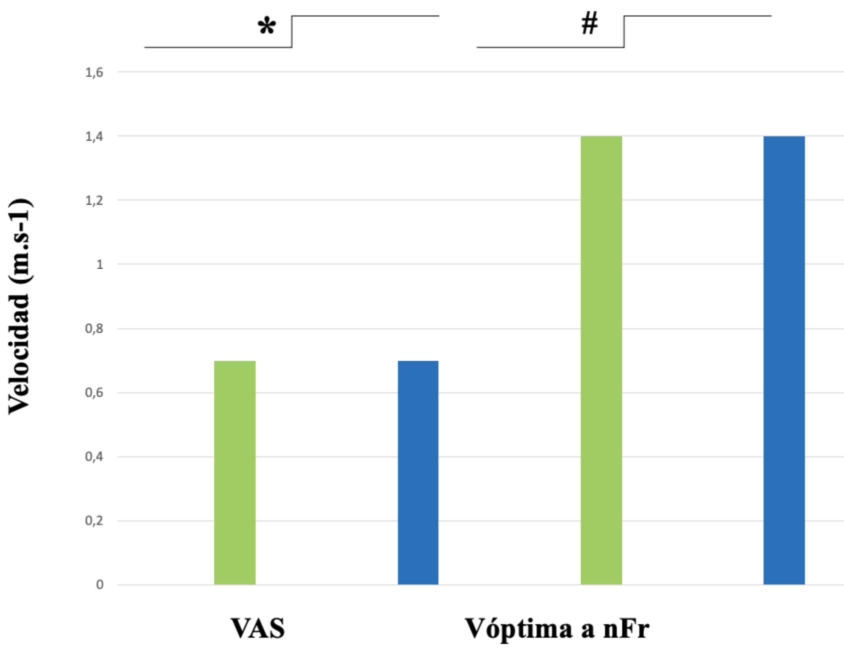
Source: Walk Test, different equations made and differentiated by colors.

Differences were found in the intragroup evaluation with three different equations. The colors represent the differences between the six-minute test measure measured in the present study and the different equations. The difference with the equation of Enright & Sherrill, 1998 for the sedentary group is (P <0.001), and for the same situation for the active group (P = 0.001); The difference with the Troosters equation, et al., 1999 for thesedentary group is (P <0.001), and the same situation for the active group (P <0.001); while the difference with the equation of Enright, 2003 for the sedentary group is (P = 0.002).

TM6 is the average of the six-minute walk test; E and S, 1998 is the average of the equation of Enright and Sherrill, 1998; T, G and D, 1999 is the average of the equation of Troosters, et al., 1999; E, 2003 is the average of the equation of Enright, 2003. average of the equation of Enright, 2003;the green column is the measure of the six- minute walk test of the present study for the sedentary group, the yellow column is the estimated measure of the walk test of six minutes through the equation of Enright and Sherrill, 1998, the blue column is the estimated measurement of the six-minute walktest through the equation of Troosters, et al., 1999, and the red column is the estimated measurement of the six-minute walk test through the Enright equation , 2003; The gray column is the measure of the six-minute walk test of the present study for the active group, the purple column is the estimated measure of the six-minute walk test through the equation of Enright and Sherrill, 1998, the turquoise column is the estimated measurement of the six-minute walk test through the equation of Troosters, et al., 1999, and the black column is the estimated measurement of the six-minute walk test through the Enright equation , 2003.

Figure 3 shows the VAS and Vóptima estimated for the two groups.

Figure 3: *VAS and Vóptima estimated for the two groups.*



Source: Gait speed test, speed results in meters per second.

As you can see the sedentary group (green) and the active group (blue), VAS is the autoselected speed; VOptimal is the optimal velocity estimated by the Froude equation. (*) represents difference between VAS and VOptimal for the sedentary group ($P \leq 0.001$); represents the difference between the VAS and the VOptimal for the group of assets (P
≤ 0.001).

Table 2. *Results of functional tests*

	Sedentary lifestyle	Active	P Value
Flexibility MsIs (cm)			
Right	3.6 ± 11.2		0.55
Left	3.2 ± 13.2		0,.83
Strength MsSs (cm)			
Right	0.8 ± 9.5	3.6 ± 7.25	0.49

Left	5.6 ± 11.3	4.2 ± 8.06	0.84
Strength MsIs (repetitions)	14.8 ± 4.7	15.64 ±4.52	0.75
balance (s)	7.2 ± 2.3	6.78 ± 2.0	0.60
Right	19.8 ± 19.4	19.6 ± 15.09	0.53
Left	26.3 ± 25.8	19.6 ± 19.78	0.67
6 minutes' walk test	386.9 ± 62.8	405.95 ± 47.80	0.43
Enright & Sherrill, 1998	460.6 ± 52.6	470 ± 44.50	0.92
Troosters et al. 1999	560.5 ± 59.8	580.78 ± 41.09	0.45
Enright, 2003	425.8 ± 47.8	445.08 ± 35.45	0.43
VAS (m. s^{-1})	0.8 ± 0.3	0.85 ± 0.22	0.98

Source: Data are presented in Mean SD, for difference: $p < 0.05$. Flexibility MsIs is the flexibility measured in the lower limbs; flexibility MsSs is the flexibility measured in the upper limbs; force MsIs is the force measured in thelower limbs; VAS is the auto selected speed.

As stated, (Newman, et al., 2006) The group of active older adults was expected to havebetter results for the different variables analyzed. The application of the tests in closer time spans, in a study with training follow-up, allow a better tracking (follow-up) of the results in order to efficiently compare the physical activity / sedentary lifestyle relationship. We improve the intensity of physical activity for the active and sedentary group by applying a program of recreational physical activities in the population investigated.

PROPOSAL

Physical and Recreational Activities Program.

Our main objective of the proposal is to determine the stimulation of strength, flexibilityand balance through a Program of Physical and Recreational Activities in older adults ofa gerontological center in the city of Quito.

Through the results obtained in the previously described tests, we have implemented a program applied in three fundamental areas which are: recreational, recreational and artistic.

These activities were applied for 3 months, uninterruptedly and three days a week, witha duration of 60 minutes for each session, which are divided as follows:

Parts of the class: what does the initial part, which is the warm-up, the main part, the proposed exercises and the return to calm, which would be the stretching, the name of the activities to be carried out each session, the resources to be used and the evaluation that It will be applied to participants at the end of each activity.

Table 3. *Monthly Physical and Recreational Activities*

Monday	Wednesday	Friday
Yoga	Playful games	Tai Chi
Pilates	Dance	Gymnastics
Yoga	Playful games	Tai Chi
Pilates	Danza	Gymnastics

Source: Elva Katherine Aguilar Morocho

All these activities were executed and 100% fulfilled.

Table 4. *Daily work plan*

Class parts	**Activity**	**description of theactivity**	**Resources**	**Time**	**Evaluation**
Icebreaker Activity	Jesus told Lazarus	"Get up, get up" and Lazaro gives him an activity (sing) with theword sing the song. Execution of movementsor postures "healthy" conscious, generating a connection with the breath, natural movement and the environment. Repetition of conscious breaths	Human Resources	15"	Motivation and active participation in the entrusted activities
Main Activity	Yoga		Mats	35"	
Final Part	Meditation		Music for relaxation	10"	

Source: Elva Katherine Aguilar Morocho

This is a model planning of all classes implemented with older adults who improved strength, flexibility, and balance through all of the quarterly planning.

CONCLUSIONS

The physical capacities of the elderly were evaluated by means of the functional and walking tests applied in the sedentary participants, when performing the initial test, we realized that in the two groups there was little difference than what we could expect, in addition to not having differences in the tests, the active group presented two greater physical measures than the sedentary ones.
The applied program demonstrated the benefits of recreation through the use of sports, recreational and artistic physical activities, strategically planned areas that allowed the achievement of the objective during the three months, promoting other possibilities that lead to the improvement of the integral health of the entire population of older adults.
When carrying out the evaluation of the improvement in capacities we can realize that the strength increased by 0.75% in the active population, in flexibility we have 0.94% and in terms of balance we have 0.60% which indicates that our program impact of mildway to older adults. A weakness of this work is that the sample that participated did a self-report of the intensity and amount in minutes of their weekly physical and recreational exercise routines.
For future studies, it is suggested to carry out an intervention through planned and structured physical activity, with routines established by coaches, it is essential tomonitor the heart rate and scale of perceived exertion during sessions of physical and recreational activities applied in older adults.

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