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An Analysis of the Mathematics Book for the Tenth Grade in light of the Principles of Quality Mathematics Textbooks (NCTM) from the point of view of Mathematics Teachers in Jordan.

Dr. Talal Yousef Abu Amara, The Royal Jordanian Air Force College for Aviation Sciences RJAFC

Abstract-This study aimed to identify the analysis of the mathematics book for the tenth grade in the light of the principles of school mathematics (NCTM) , the study dealt with the principles of: (curriculum, teaching, learning) from the point of view of the tenth grade mathematics teachers in Jordan, and the study tried to answer the main question: What is the degree of evaluation of the Quality of the Mathematics Book for the Tenth Grade in light of the principles of school mathematics (NCTM) from the point of view of Mathematics Teachers in Jordan?**,** the following two main questions emerged from this main question:
(1) What is the degree of quality assessment in mathematics textbooks in terms of achieving NCTM school mathematics principles (curriculum, teaching, and learning) from the viewpoint of mathematics teachers in Jordan? (2) Are there statistically significant differences (at the $\alpha = 0.05$ level) in the degree of assessing quality levels in mathematics textbooks that may be attributed to variables such as: gender, educational qualification, number of years of experience?

The study tool was a questionnaire consisting of (30) items representing in their entirety the three principles(curriculum, teaching, learning), Tool Validity and Stability were calculated, and the study sample consisted of (124) teachers from mathematics teachers for the tenth grade in schools affiliated to the Directorate of Special Education in the Capital Amman.

Where the results of the study showed about the first question: estimates are limited to medium responses, high responses in their evaluation of the principles of quality in mathematics books which indicates the high availability of quality principles in this book
Upon answering the second question, the study showed that there is a statistically significant effect in all the axes of the study (curriculum, education, and learning) due to the gender variable and the number of years of experience in favor of females, and there are no statistically significant differences that can be attributed to the scientific qualification variable. The researcher recommended the necessity of training mathematics teachers on how to teach using modern mathematics books, and the necessity of organizing the content of books in line with the principles and standards of school mathematics.

Key words: Mathematics Book for Grade 10, NCTM Principles: Curriculum, Teaching, and Learning.

I. INTRODUCTION:

The current era is witnessing tremendous progress in the knowledge revolution in all technological, cognitive, psychological, social and educational fields, and the belief in laying the foundations for quality in all fields has emerged, and the quality of education has become the first in the list of priorities for the Arab region in general, and therefore improving the quality of education is considered a priority and a strategy. it is urgent locally, regionally and globally in the framework of work to achieve the goals of education for all in terms of quantity and quality, and providing distinguished education in the entirety of educational processes and skills has become a goal dictated by the requirements of sustainable development and positive dealing with globalization variables and facing the challenges of competition in the global market.

The application of standards, principles and goals of quality in the field of education works to improve learning outcomes and raise the level of students' performance in the cognitive, mental, social, psychological and physical field ,and it works to raise the work efficiency of teachers and administrators working in the

school, and to increase educational efficiency in all fields, as it also works for you to save time and effort in the completion of educational work, and to develop the values of teamwork (Abu Amara, 2015).

Mathematics is considered the language of science and it is a method concerned with methods of thinking and proof, and it is an integral part of an individual's life, because it helps the student to analyze situations and understand the interrelationships between the different elements, so that the student can face different problems and address them, as it is now seen as a global language. With its specific and clear expressions and symbols used by all human beings, and it has precise definitions, which facilitate intellectual communication between nations (Al-Qudsi, 2003), The concepts of the quality of education have entered the school mathematics curriculum and have started to develop them in terms of content, activities, teaching methods and evaluation, as the educational curriculum is considered an effective tool to achieve the goals of education according to modern principles that serve educational work that is constantly developing as a result of development in all areas of life. (Barika, 2008).

To support the role of a mathematics teacher for the better, a committee of directors of the National Council of Mathematics Teachers in the United States of America (NCTM) established a working group in 1986 to develop a set of principles and standards for school mathematics to be an educational guide and guide for mathematics teachers and mentors in a way that contributes to improving mathematics education, improving and raising The competence of the pupils, and that these principles and standards are used as a basis for making a change in the teaching of mathematics in order to reach the goals of teaching mathematics to every learner (NCTM, 2000).

The process of analyzing and evaluating textbooks can be considered a process both diagnostic and therapeutic, leading to curriculum development and improve the level of textbooks, either through deletion, or addition or modification. The analysis process may be useful for understanding the content books, and clarification of the means and activities in them, which increases the effectiveness of its use in the teaching process (Abu Zina, 2010)

The American Mathematics Teachers Organization (NCTM, 2000) has developed a number of principles for school mathematics that provide a reference guide in making these decisions, and these principles are: the principle of equality, the principle of curriculum, the principle of education, the principle of learning, the principle of evaluation, and the principle of technology, and are classified Principles and standards of school mathematics in a future in which all students receive high-quality teaching of mathematics so that the student feels an understanding of the power and beauty of mathematics so that he can solve problems creatively, and the student can perform many mathematical understandings and deal with techniques that expand and deepen his understanding For mathematics and works to prepare students to join different educational paths (NCTM, 2000).

Among the principles of school mathematics is the principle of the Curriculum that includes many concepts more than just a textbook as it includes terms, facts, concepts and skills formulated in a way that the student can understand clearly. Examples, problems, and proofs consistently and beautifully and does not contain typographical errors or wrong solutions that affect the understanding of the content, and it is vertically interconnected with other classes, and highlights students 'errors in the solution, and is commensurate with students' ages and takes into account individual differences between them (Abu Amara,2015).

Likewise, the principle of Teaching , which is the main work that the teacher does, does not mean the teacher's smile and adjusts to the class, as it is represented in various matters, including effective preparation of skills, explanation, providing examples and carrying out teaching methods that fit the educational situation, evaluation processes, analysis of results, and psychological support to the student, Nelan (2005) noticed that students avoided reading mathematics books prescribed to them in high school, and noted that teachers do not teach students how to deal with the textbook, and he noticed that teachers themselves do not use mathematics textbooks as a suitable tool for teaching

The principle of Learning indicates the behavior of the student and his perseverance in understanding, application, analysis, discussion, clarification, summarization, persuasion and conviction in order to achieve the benefit of education the curriculum is represented by the textbook and its knowledge content and the methods of student learning of mathematical concepts from the important factors that may cause low achievement of students in the daily and achievement exams, so that the mathematics exams are a concern for the student, his family and his school (Abu Amara, 2015).

The Study Problem:

In the academic year 2020/2021, the Ministry of Education in Jordan, in cooperation with the National Center for Curriculum Development, applied a set of modern mathematics books in terms of output, printing, content, teaching methods and evaluation, and this met with different reactions among teachers, parents and students, and this was demonstrated through publications: on social media, phone calls, and personal interviews, the opinions centered on the conversion between the use of symbols and numbers from the Arabic language to the English language, and changing the patterns of the usual teaching methods, in addition to the lack of adequate preparation due to the Corona pandemic(COVID-19), which disrupted school attendance, deprived teachers of development courses in performance, and deprived students of education inside the classroom and their conversion to distance education.

There is no doubt that the nature of mathematics as a mental subject creates confusion for a large segment of students, and this is evident in their low marks in it more than any other subject. The results of the international study tests in science and mathematics (TIMMS, 2015) in which Jordan participated indicated that he obtained The center is (36) in the field of mathematics out of (49) countries of the world, and the average results of Jordanian students are lower than their averages in recent years, as there appears to be an urgent need for reviewing mathematics curricula, and programs for preparing “teachers” and the “school environment” in general to make the necessary improvements and that To support our students' achievement and promote it to reach the international level. (National Center for Human Resources Development, 2017).

There is no doubt that educational research works to develop various tools to help students understand mathematics and improve their performance in it and to assist teachers and educational supervisors in developing plans for work and development, and from the viewpoint of the researcher, the curriculum is represented by the textbook and its knowledge content, teaching methods and methods. The teacher does, and the student’s learning methods for mathematical concepts are among the important factors that may cause a decline in mathematics skills and a decline in student achievement in achievement examinations. This decline in grades has been diagnosed through many sources such as the researcher's personal experience in the field of university teaching and supervision of Master Theses, And his experience in supervising mathematics teachers, as he noticed the decrease in the ability of tenth grade students to understand mathematics, and their lack of reliance on the textbook in the study and not taking it with them to the classroom, as well as the case of the teacher who began distributing alternative papers for the textbook prescribed by the Ministry of Education And education under the supervision of groups of specialized experts, which generated a feeling among the researcher that there was some problem in using the textbook for the tenth grade in mathematics, which drives both students and teachers to refrain from it, and from here the idea of research was born to identify the extent to which mathematics teachers evaluate the tenth grade for the quality of their book .

Study questions:

The Main Question in this study was: What is the degree of evaluation of the Quality of the Mathematics Book for the Tenth Grade in light of the principles of school mathematics (NCTM) from the point of view of Mathematics Teachers in Jordan?

The following two main questions emerged from this main question:

The First Question: What is the degree of quality assessment in mathematics for the tenth grade in terms of school Mathematics Principles (Curriculum, Teaching, Learning) from the viewpoint of Mathematics Teachers in Jordan?

The Second Question: Are there statistically significant differences (at the level of $\alpha = 0.05$) in the degree of assessing quality levels in the Tenth Grade Mathematics Textbook in terms of Principles (Curriculum, Teaching, Learning) that may be attributed to variables: Gender, Academic Qualification, Number of Years of Experience?

Objectives of the Study:

- Recognizing the degree of quality evaluation in the tenth grade mathematics textbook in terms of school mathematics principles developed by the American Mathematics Teachers Organization (NCTM, 2000), which are principles: (Curriculum, Teaching, Learning) from the point of view of the tenth grade mathematics teachers in Jordan
- A study of the existence of statistical significance differences in the degree of assessing quality levels in the mathematics textbook for the tenth grade of mathematics teachers that may be attributed to variables: gender, academic qualification, number of years of experience and their justification.

The Importance of Study:

- The study is important because it is the first study - within the limits of the researcher's knowledge - that deals with a mathematics book that was drafted by the National Curriculum Development Center in cooperation with the Harper Collins Foundation and which is applied for the first time in the 2020/2021 academic year.
- And this study is important because it tries to verify the existence of a number of international quality principles in mathematics books, which are very important principles upon which plans for developing mathematics are based.
- This study focuses on the actual use of the mathematics book by the teacher and the student, and it attempts to shed light on the problem of reluctance to use the mathematics book from the teachers' and female teachers' point of view.

The results of this study may have many benefits, including the adoption of methods for developing the textbook and its various concepts and interest in it.

Study Limitations:

The current study was limited to the following determinants:

1) Analysis of the mathematics book for the tenth grade for the first semester and the exercise book issued by the National Center for Curriculum Development, Curriculum and Textbook Management in the Ministry of Education, Jordan, for the academic year 2020/2021.

2) The study dealt with three principles from the principles of school mathematics (NCTM): the principle of curriculum, the principle of teaching (teaching), and the principle of learning.

3) The results are also determined by the validity and reliability of the study tool, which is: Questionnaire for assessing the quality of mathematics textbooks in light of the principles of (NCTM) from the viewpoint of mathematics teachers in Jordan.

4) The tool was applied to a sample of (124) male and female teachers from private education schools in Amman, Jordan.

Terminology of Study:

- Mathematics Book for the Tenth Grade: These are the books approved by the Ministry of Education in Jordan to teach tenth grade students for the 2020/2021 academic year

Principles of School Mathematics: These are the principles developed by the American Mathematics Teachers Organization (NCTM: National Council of Teachers of Mathematic) and adopted by most countries of the world. Mathematics, and works on building curricula that suit that and are concerned with the cognitive development of students.

- The Principle of the Curriculum: where it must meet the conditions of consistency, coherence, suspense, appropriate language and practical examples, and that it fits the student's age, takes into account individual differences, and prepares students for useful learning and has the characteristics of good production and clear images. This principle is represented in the questions represented by the tool of this study.

- The Principle of Teaching: the work carried out by the textbook in the role of a mathematics teacher in terms of the availability of appropriate explanation, examples and clarity necessary for effective learning to occur among the student and meet the students' cognitive needs at all their mental levels, and this principle is represented in the questions represented by the tool of this study.

- The Principle of Learning: the way in which the textbook helps the student in understanding, comprehension, application, analysis and problem solving, and integrating new information with the student's previous experiences. This principle is also represented in the questions represented by this study tool.

Previous studies

- **Asqule**, **Abu-owdah.(2019)**. Conducted a study aimed to analyze the content of the Palestinian mathematics books for the ninth grade in the light of the NCTM standards. The researchers used the analytical descriptive method. The study sample consisted of the content of the ninth-grade mathematics books, which were applied in the academic year 2016-2017 in Palestine by two books. The researchers used the content analysis tool, which was prepared based on the NCTM standards for content standards. The study concluded that mathematics books for the ninth-grade primary for the academic year 2017-2018 included the NCTM standards for content at varying rates. One of the most important recommendations of the study is that curriculum professionals should be exposed to global standards for curriculum development such as the NCTM standards, a review of weaknesses and poverty in ninth grade math books and reinforcement of strengths.

- Researchers **Miqdadi and Rababa.(2016).** Conducted a study investigated the compliance of Jordan's reformed mathematics textbooks for first-graders to the National Council of Teachers of Mathematics' (NCTM, 2000) in Jordan. An analysis instrument was designed. The Standards. The population and the sample of the study validity and reliability of the instrument were ensured. The reformed 2015 mathematics textbook was analyzed with this instrument. The results of the study revealed that the reformed mathematics textbook complied with (31) indicators of (NCTM) standards resulting in a compliance rate of 68%. However, the content did not achieve (14) indicators in the five areas of the content standards. In addition, the reformed mathematics textbooks neglected the data analysis and probability standard.

- **Abdel-Al .(2018).** conducted a study on analyzing the content of the mathematics book for the seventh grade of the basic education stage in Jordan in the light of the problem solving standard of the National Council of Mathematics Teachers (NCTM) standards, and to achieve this purpose, the analysis tool was prepared, which included six sub-criteria From the standards of the American National Council of Mathematics Teachers (NCTM-2000), as its validity and reliability were verified, the results of the study indicated that "the use of problem-solving methods to understand the mathematical content It came in the first place most frequently among the criteria for solving the problem, while the criterion "developing and using different strategies to solve mathematical problems" came in the last place least frequently among the criteria for solving the problem in activities and examples, while "forming mathematical problems from life" came first The most frequent of the problem-solving criteria included in the proposed questions to evaluate content learning, while "generalizing solution methods and strategies used to new problem situations" came in the last, least frequent position in the problem-solving criterion in the proposed questions to evaluate content learning.

- **Jawad.(2016).**This study aimed to analyze the content of the mathematics textbook for the fourth scientific grade in light of the NCTM standards for content. The researcher used the descriptive and analytical

method, and the sample of the study consisted of a mathematics book for the fourth scientific grade. Content analysis as a study tool based on NCTM standards; the study concluded that a small percentage of the criteria were present and that some of the Standards have no place, and the Iraqi curriculum lacks school mathematical standards issued by the NCTM.

- Researchers **Miqdadi and Rababa**.(2016). Conducted a study investigated the compliance of Jordan's reformed mathematics textbooks for first-graders to the National Council of Teachers of Mathematics' (NCTM, 2000) in Jordan. An analysis instrument was designed. The Standards. The population and the sample of the study validity and reliability of the instrument were ensured. The reformed 2015 mathematics textbook was analyzed with this instrument. The results of the study revealed that the reformed mathematics textbook complied with (31) indicators of (NCTM) standards resulting in a compliance rate of 68%. However, the content did not achieve (14) indicators in the five areas of the content standards. In addition, the reformed mathematics textbooks neglected the data analysis and probability standard.

- The study of **Abu Amara. (2015).** entitle Evaluating the Quality of Mathematics Books for the Secondary Stage (Scientific Branch) in the Light of Principles of School Mathematics (NCTM) from the point of view of mathematics teachers in Jordan, a questionnaire consisting of (30) items was prepared that measures the goal of the study. (105) teachers were applied And mathematics teachers for the scientific branch in private education schools in the capital Amman, where the results of the study showed the existence of estimates of dissatisfaction and average estimates of satisfaction with the book and the presence of statistical significance to the gender variable in favor of females, and the absence of statistically significant differences that can be attributed to the variables of the number of years of experience And scientific qualification.

- **Al-Douwairi and Al-Aliyat.(2014).** Analyzed the Geometry content in mathematics textbooks for the higher basic stage in Jordan in the light of (NCTM, 2000) standards. The two researchers developed an analysis tool based on the American Content Standards document (NCTM, 2000), after verifying its sincerity and reliability, the results of the study showed a compatibility between the content of the Jordanian book and the standard of Geometry in its four fields found in (NCTM, 2000), and the study showed the presence of results that are statistically significant for the availability of the standard of Geometry content in the four fields.

- The study of **Al-Zubi and Al-Obeidan**. (2014). Aimed at investigating the existence of the involvement of the mathematics textbooks of the fourth grade in Saudi Arabia to the NCTM standards. The population and the sample of the study was the same, which consisted of the fourth grade mathematics textbook in Saudi Arabia since 2009. An analysis instrument was designed; the validity and reliability of the instrument were ensured. The results of the study revealed that the fourth grade mathematics textbook includes the following: numbers and the common operations (2.03% - 14.57%), geometry (6.42 % - 13.58%), probability and analysis features (6.98% - 15.12%), problem solving (9.41 % -28.24%), thinking and reasoning (5.17% - 15.52%), communication (4.30% -25.81%).

- The study of **Hamdan. (2010)**. aimed at identifying the conformity of mathematical concepts included in mathematics books (6-8) according to the NCTM standards from two aspects: the first: the availability of levels, and the second: the method of presenting the concepts of these levels, and the researcher prepared three tools : The content analysis tool, the list of mathematical concepts emanating from the NCTM standards, and a questionnaire distributed to teachers about methods of presenting mathematical concepts, and the study concluded that mathematical concepts were available in those books at high rates, and there were deficiencies in the availability of the levels of algebra and geometry. Teachers focus on using skills and procedures at the expense of conceptual education

- **Al-Aidi .(2006).** Conducted a study aimed at verifying the observance of the principle of equality in school mathematics curricula at the basic stage in Jordan in light of the Principles of School Mathematics (NCTM) document (the researcher used a tool to analyze content, watch classroom lessons, and analyze documents, and the study was applied. On two male and two female schools, the results of the study showed

that the Jordanian curriculum had high expectations in the standards of numbers and algebra, and low expectations for the criteria of probability and geometry, and the study showed the observance of the principle of individual differences in teaching, and a variation in the application of the principle of equality.

- The study of **Pickreign & Capps. (2000**): aimed to match the elementary geometry curriculum with current standards by examining the language of geometry in a series of mathematics textbooks from kindergarten to sixth (K-6) accurately and comparing it to the language used in Curriculum and evaluation standards for school mathematics and standards for the performance of new school mathematics for the elementary stage, and the results of the study indicated a mismatch between the geometry presented in the books and the geometry suggested by the standards,and the main areas of non-conformity with their contents were identified, which is the amount of the new geometry vocabulary compared to all the vocabulary presented in each class. Sixth, the percentage of geometry terms compared to all mathematics terms at a grade level: 20%.

Study Tool:

After the researcher reviewed the previous educational literature related to school mathematics textbooks and the principles and standards of school mathematics, as well as through research on previous studies related to the subject of Arab and foreign study, the study tool was built using the study tool prepared by (Abu Amara, 2015), which is a questionnaire consisting of (30) paragraphs representing the three principles, which are: the principle of the curriculum, the principle of teaching, and the principle of learning that should be available in mathematics books for the tenth grade, where each principle was represented by ten paragraphs, and the researcher approved the assessment of the degree of approval of the statement in relation to the sample responses to it according to the scale Likert also follows:

(1.00 - 1.79): Very Weak Response.
(1.80 - 2.59): Weak Response.
(2.60 - 3.39) Medium Response.
(3.40 - 4.19) High Response.
(4.2-5.0): Very High Response.

Tool Validity and Stability:

To find out the validity of the study tool, the questionnaire was presented to a group of specialists in the Curricula and Methods of teaching mathematics and specialists in Measurement and Evaluation to judge its suitability for application. The comments of the arbitrators were taken and the appropriate modifications were made to the questionnaire.

As for ensuring the stability of the tool, the tool was applied to a sample consisting of (12) teachers of mathematics teachers of the tenth grade of public schools not included in the study sample, and after about two weeks had passed, it was distributed (the same questions, but in a different order of their paragraphs) on The same group without prior knowledge, as the Cronbach alpha coefficient was calculated for the stability of the instrument as a whole, so the result was (0.933), which is an acceptable result for the purposes of the study.

Study Population:

The study population consists of all mathematics teachers who teach mathematics to tenth grade students in the 2020-2021 academic year in the schools of the Directorate of Special Education in the Capital Governorate of Amman, which number approximately 400 teachers.

Study Sample:

The study sample consisted of (124) teachers of mathematics teachers for the tenth grade in the private schools of the Directorate of Special Education in the Capital Governorate of Amman who responded to the application of the study tool, and Table (1) shows the details of the study sample.

Table (1)
Details of the study sample

Variable	Number	Percentage

Sex	Male	53	%42.7
	Female	71	%57.3
Sum		124	%100
Qualification	Bachelor of	81	65.3%
	Higher diploma - Master	43	34.7%
Sum		124	100%
Years of Experience	Less than 5 years	42	33.9%
	From 5 to less than 10 years old	33	26.6%
	10 years or more	49	39.5%
Sum		124	100%

Statistical Treatments:
The researcher used the following statistical methods:
1- Calculating the Arithmetic Mean, Standard Deviations, and Determining the Order of the study individuals' responses to the instrument's paragraphs in order to answer the first question of the study.
2- Analysis of variance to study the differences between the arithmetic averages of the responses of the study members about the tool's paragraphs and axes when talking about the results of the second question of the study.
3- Comparison of arithmetic averages in the case of a statistically significant effect.

II. Study Results and Discussion:

Discussing the Results of the First Question: The First Question in this study was: What is the degree of Quality Evaluation in the Tenth Grade Mathematics Book in terms of School Mathematics Principles (Curriculum, Teaching, and Learning) from the viewpoint of Mathematics Teachers in Jordan? Where the values of the arithmetic averages, standard deviations, and the order of the responses of the sample members from the study tool were calculated, and tables (2) (3), (4) present these results related to the availability of principles: curriculum, education, learning.

Table (2)
Arithmetic means, Standard Deviations, and the Arrangement of the responses of the study sample individuals on the Principle of the Curriculum in the Mathematics Textbooks

Serial Number	Paragraph	Arithmetic Mean	Standard Deviation	Ranking Score	Rating Score
1	The textbook sets clear knowledge goals for each lesson	3.8710	.84553	3	High
2	The book's objectives are linked to the true needs of learners	3.0806	.99263	8	Medium
3	The goals vary in their levels of knowledge and take into account individual differences between students.	3.0565	.91334	9	Medium
4	The mathematical information in the book is extremely accurate	3.5565	.79941	5	High
5	Mathematical knowledge in the book coincides with modern mathematical knowledge	4.1774	.72188	2	High
6	The book's knowledge links the student's current knowledge to his experience.	3.7823	.77102	4	High
7	The book exercises clearly stimulate students' thinking.	3.3145	.71416	6	Medium

8	The attractions are found in graphics, colors, and book design	2.5403	.76932	10	Medium
9	The main and sub-chapter headings appear clearly in the book.	4.2500	.76251	1	High
10	The book is distinguished by its clear language free of confusion and confusion	3.2903	.83398	7	Medium

Where the results of Table (2) show agreement in a ratio between (2.5403 to 4.2500), which are responses that are limited between medium responses and high responses, and the paragraph: The headings of the main and sub-chapters appear clearly in the book in the first order, followed by the paragraph: keep up with knowledge Mathematics in the book modern mathematical knowledge and it is noticeable from the table that there are high averages that express satisfaction in the output of the book and its level of knowledge, while the paragraph was: The elements of attraction are available in the drawings, colors, and the design of the book in the last order, but within the medium satisfaction, which indicates the presence of desire In changing and developing the book's drawings and colors, and it is noticeable that the values of standard deviations are highly homogeneous in the responses of the study individuals towards the study tool.

Table (3)
Arithmetic Means, Standard Deviations, and Arrangement of responses of study sample individuals on the Principle of Teaching in Mathematics Textbooks

Serial Number	Paragraph	Arithmetic Mean	Standard Deviation	Ranking Score	Rating Score
1	The nature of the subjects helps to choose a variety of teaching methods and styles.	3.4274	.72329	7	High
2	Teachers are encouraged to use modern methods in classroom interaction.	2.9194	.61943	10	Medium
3	Helps teachers discover errors in students' performance before they happen	3.0484	.88212	9	Medium
4	Mathematics teachers are pushed to become more familiar with other resources so that they can understand the topics in depth.	4.2984	.58407	2	Very High
5	The book style helps the teacher in planning well for the class.	3.9839	.62449	4	High
6	The teacher uses the textbook as the sole reference in teaching.	3.3871	.79336	8	Medium
7	The teacher takes the textbook with each class.	3.8468	.86527	5	High
8	On the assessment, the teacher uses the same exercises and questions as the book.	4.0645	.67163	3	High
9	Some of the book's topics are difficult for the teachers themselves.	3.4677	.76971	6	High
10	The subjects of the book require more time for teaching and additional lessons over the officially scheduled classes.	4.4435	.61555	1	Very High

Where the results of Table (3) show agreement at a rate that is limited between (2.9194 to 4.4435), which are responses that are limited between medium responses, very high responses, and the paragraph was: The subjects of the book need more time for teaching and additional lessons on the officially prescribed lessons in the first order This indicates that the number of lessons is not sufficient for the teacher to accurately accomplish the objectives of the course, and this may be due to the fact that the curriculum is new and the teachers were not able to accurately determine the teaching time and determine the appropriate teaching and

evaluation methods for the class , and the paragraph was: pushing mathematics teachers to increase their knowledge of other sources so that they can deeply understand the topics in the second order, meaning that the momentum of the topics stimulates teachers towards professional growth, which is a good characteristic of the book, while the paragraph: encourages teachers to use modern methods of interaction The classroom, and this may be due to the fact that teachers have not yet developed appropriate teaching methods due to the novelty of the book's ideas. It is noticeable that the standard deviations values show high homogeneity in the responses of the study members towards the study tool.

Table (4)
Arithmetic Means, Standard Deviations, and Arrangement of responses of study sample individuals on the Principle of Learning in Mathematics Textbooks

Serial Number	Paragraph	Arithmetic Mean	Standard Deviation	Ranking Score	Rating Score
1	The book is distinguished by a clear language that the student can easily understand.	3.4355	.81890	6	High
2	The student uses the textbook as the only reference to study for school and public exams.	3.0000	.84584	8	Medium
3	Presentation style contributes to students' self-learning	3.3145	.67915	7	Medium
4	All students take the textbook with them during the class	3.9274	.82810	3	High
5	Students use teacher guides instead of the textbook.	2.2984	.77543	10	Weak
6	Some of the book's topics are difficult for students	3.9274	.81822	3	High
7	Studying mathematics takes longer than studying other subjects.	4.4194	.68784	1	Very High
8	The book examples are not sufficient to solve the existing exercises and exercises.	2.4839	.95835	9	Weak
9	Many subjects depend on previous experience that the student must master.	4.2903	.65981	2	Very High
10	The student cannot do the book exercises without his need for the teacher.	3.5565	.74684	5	High

The results of Table (4) show agreement with a percentage between (2.2984 to 4.4194), which are responses that are limited between medium responses and high responses, so the paragraph: The study of mathematics takes a longer time from the student than studying other subjects in the first order, and this may be a global phenomenon. Where the mental nature of mathematics depends on multiple mental skills, and perhaps because mathematics is mostly an abstract subject and depends on the student's accumulative information in it and that the number of ideas in it is large and grows with the growth of the student, The paragraph was: Many subjects depend on previous experience that the student must master in the second order, and the paragraph was: Students use assistive guides prepared by teachers instead of the textbook in the last place as teachers are still within the stage of insight into the textbook and perhaps because the book is not This is needed, and it is noticeable that the values of the standard deviations show high heterogeneity in the responses of the study individuals towards the study tool.

Presentation and Discussion of the Second Question of the Study

The second question of this study was: **Are there statistically significant differences (at the level of α = 0.05) in the degree of assessing quality levels in the Tenth Grade Mathematics Textbook in terms of Principles (Curriculum, Teaching, Learning) that may be attributed to variables: Gender, Academic Qualification, Number of Years of Experience?**

The following nine Tables all discuss this question in detail

First: We discuss the responses of the study individuals about the availability of curriculum elements in the tenth grade mathematics book, Tables 5,6,7 discuss this axis in detail.

Table (5) shows the one-way ANOVA analysis of variance of the study subjects' answers about the availability about the availability of the three study axes in the tenth grade mathematics textbook in relation to gender

Table (5)

The results of the analysis of unilateral variance ANOVA in the averages of the responses of the sample members about the study axes according to the gender variable

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.671	1	.671	17.402	.000[a]
	Residual	4.703	122	.039		
	Total	5.374	123			

Table (5) shows the existence of statistical significance at level (α = 0.05) attributable to the variable of sex, meaning that there is a difference in the evaluation of the study tool between males and females in the sample, and the following two tables explain the nature of that variance.

Table (6)

The details of the analysis **(ANOVA Table**) of unilateral variance in the averages of the responses of the sample members about the study axes according to the Gender.

		Sum of Squares	df	Mean Square	F	Sig.
Curriculum * Sex	Between Groups(Combined)	2.594	1	2.594	11.854	.001
	Within Groups	26.698	122	.219		
	Total	29.292	123			
Teaching * Sex	Between Groups(Combined)	.021	1	.021	.365	.547
	Within Groups	7.083	122	.058		
	Total	7.104	123			
Learning * Sex	Between Groups(Combined)	.492	1	.492	8.115	.005
	Within Groups	7.389	122	.061		
	Total	7.881	123			

As Table (6) shows the details of the variance, as it clearly shows that there is a difference in views between males and females in the two axes of the curriculum and education, while there are no statistically significant differences in the focus of teaching, and Table (7) we know the nature of the variance.

Table(7)

Details of the respondents' answers about the study axes in relation to gender

Sex		Curriculum	Teaching	Learning
male	Mean	3.324528	3.673585	3.392453
	N	53	53	53
	Std. Deviation	.2645066	.2176367	.2260438
female	Mean	3.616901	3.700000	3.519718
	N	71	71	71
	Std. Deviation	.5739552	.2569047	.2600108
Total	Mean	3.491935	3.688710	3.465323

	N	124	124	124
	Std. Deviation	.4880019	.2403283	.2531250

Table (7) shows that the difference was in favor of females in the two axes of the curriculum and education, which reflects their satisfaction more than with the two axes of the study, noting that there is general satisfaction with the mathematics curriculum for the tenth grade between the two genders.

It is noticeable from the review of the previous three tables that there is a difference in the degree of importance of the paragraphs of the study questionnaire due to gender, and that females gave a higher evaluation than males, and the researcher may attribute this to the approval of females to develop in the mathematics book and that the female teachers read the study tool more deeply.

Second: Discussing the responses of the study individuals about the study axes relative to the number of years of experience. Tables 8,9,10 discuss that in detail.

Table (8) presents the one-way ANOVA analysis of variances of the responses of the study individuals about the availability of the three study axes in the tenth grade mathematics textbook relative to the number of years of experience

Table (8)

The results of the analysis of unilateral variance in the averages of the responses of the sample members about the study axes according to the variable of the number of years of experience

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.637	1	.637	16.413	.000[a]
	Residual	4.737	122	.039		
	Total	5.374	123			

When reading Table (8) to analyze the variance of the study axes relative to the variable number of years of experience, we notice a statistical significance, meaning that there is a difference in views according to the number of years of experience and the axes of the study tool, and the following two tables try to identify the details of the variance.

Table(9)

The details of the analysis (ANOVA Table) of unilateral variance in the averages of the responses of the sample members about the study axes according to the number of years of experience

		Sum of Squares	df	Mean Square	F	Sig.
Curriculum * Years of Experience	Between Groups (Combined)	.780	2	.390	1.655	.195
	Within Groups	28.512	121	.236		
	Total	29.292	123			
Teaching * Years of Experience	Between Groups (Combined)	1.037	2	.518	10.339	.000
	Within Groups	6.067	121	.050		
	Total	7.104	123			
Learning * Years of Experience	Between Groups (Combined)	.675	2	.337	5.664	.004
	Within Groups	7.206	121	.060		
	Total	7.881	123			

Where Table (9) shows statistically significant differences in the two axes of teaching and education, while there is no statistical significance in the axis of the curriculum, and Table (10) shows the sources of variation.

Table(10)

Details of the respondents' answers about the study axes relative to number of years of experience

Years of Experience	Curriculum	Teaching	Learning

Less 5 years	Mean	3.405128	3.638462	3.415385
	N	39	39	39
	Std. Deviation	.2139217	.2423736	.1980676
5to10 years	Mean	3.478000	3.626000	3.422000
	N	50	50	50
	Std. Deviation	.2866342	.2126701	.2597408
more10 years	Mean	3.608571	3.834286	3.582857
	N	35	35	35
	Std. Deviation	.8179499	.2182051	.2662216
Total	Mean	3.491935	3.688710	3.465323
	N	124	124	124
	Std. Deviation	.4880019	.2403283	.2531250

The table shows that the variance is in favor of teachers with the longest experience (more than 10 years), followed by those with average experience, noting that there is general satisfaction with the mathematics curriculum for the ninth grade regardless of the number of years of experience.

It is noticeable from the review of the previous three tables that there is a difference in the degree of importance of the paragraphs of the study questionnaire due to the number of years of experience, and that those with long and recent experience gave a higher evaluation than those with medium experience, and the researcher may attribute this to that long experience reveals the strengths and weaknesses in the textbook Also, those with short experience are keen to develop themselves by analyzing the books in detail and solving all their questions in order to avoid any difficult question or complex new experience that they may face.

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Third: To get acquainted with the significance of the responses of the study members on its three axes (Curriculum, Teaching, and Learning) according to the scientific Qualification variable, tables 11,12,13 are discuss that in detail as follows:

The following Table (11) represents the ANOVA analysis of the indications of the responses of the study members for their axes related to the principles of quality (curriculum, teaching, and learning) according to the educational (scientific) qualification variable of the study individuals as follows:

Table(11)

The results of the analysis ANOVA of unilateral variance in the averages of the responses of the sample members about the study axes according to the scientific qualification variable

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.252	1	.252	6.000	.016[a]
	Residual	5.122	122	.042		
	Total	5.374	123			

Table (11) shows that there are no statistically significant differences that may be caused by academic qualification, meaning that there is congruence in views about the study axes regardless of academic qualification.

Table (12) presents details of the analysis (ANOVA Table) of unilateral variance of the responses of the study members about the availability of the three study axes in the tenth grade mathematics textbook relative to the academic qualification in its three parts

Table(12)

The details of the analysis(**ANOVA Table**) of unilateral variance in the averages of the responses of the sample members about the study axes according to qualifications

	Sum of Squares	df	Mean Square	F	Sig.

Curriculum	*Between	(Combined)	.576	1	.576	2.449	.120
Qualification	Groups						
	Within Groups		28.716	122	.235		
	Total		29.292	123			
Teaching	*Between	(Combined)	.141	1	.141	2.477	.118
Qualification	Groups						
	Within Groups		6.963	122	.057		
	Total		7.104	123			
Learning	*Between	(Combined)	.137	1	.137	2.163	.144
Qualification	Groups						
	Within Groups		7.744	122	.063		
	Total		7.881	123			

Where the table shows that there are no statistically significant differences that may be caused by the scientific Qualification in the three study axes, meaning that there is a great congruence in the views on the study axes regardless of the academic qualification, It means that mathematics teachers with a bachelor's degree in mathematics or those with postgraduate studies have the same method of evaluation for the availability of the three principles in the new book for the tenth grade.

Table (13) takes a closer look at the responses of the study members according to their academic qualifications on the three study axes as follows:

Table(13)
Details of the respondents' answers about the study axes relative to scientific qualification

Qualification		Curriculum	Teaching	Learning
bachelors	Mean	3.400000	3.643182	3.420455
	N	44	44	44
	Std. Deviation	.2178115	.2395711	.2041198
Postgraduate studies after Bachelor's	Mean	3.542500	3.713750	3.490000
	N	80	80	80
	Std. Deviation	.5810891	.2385312	.2744846
Total	Mean	3.491935	3.688710	3.465323
	N	124	124	124
	Std. Deviation	.4880019	.2403283	.2531250

Table (13) shows the convergence of the arithmetic mean values of the study individuals when they answered the study axes, with a general satisfaction with the mathematics curriculum for the tenth grade.
It is noticeable from the review of the previous three tables that there is no difference in the degree of importance of the paragraphs of the study questionnaire due to the degree obtained by the mathematics teacher, as they all gave almost the same estimates for the axes of the study tool, and this may indicate satisfaction with the new book.

By reviewing the answers in general to the study questions, the researcher noticed that there is great satisfaction with the new mathematics book for the tenth grade, and that it contains high connotations for a good book that depends on it, which encourages the Ministry of Education to continue the process of developing mathematics books in this distinguished series of books.

III. RECOMMENDATIONS:

In light of the findings of the current study, the researcher recommends the following:
- Calling upon the Ministry of Education in Jordan to continue developing mathematics books for all grades within this modern and distinguished series of books.

- Include mathematics books examples and exercises related to the Arab-Jordanian environment.
- Training mathematics teachers on how to use the tenth grade mathematics book. The training includes solving questions, using teaching methods and evaluation, activities and time management.
- Reorganizing the content of the mathematics book for the tenth grade to conform to the principles and standards of school mathematics NCTM, and in line with the demands of teachers in that.

- Conducting in-depth quantitative and qualitative research and studies aimed at improving the methods of dealing with the textbook by the student and the teacher.
- Enhancing the textbook with references and websites that support the success of the teaching and learning processes.
- Conducting new studies in other variables such as the principle of equality, the principle of evaluation, school mathematics standards, mathematical proof, verbal communication, and teaching time management.

- Conducting studies on the impact of learning from the tenth grade mathematics textbook on achievement and ability to solve problems, different directions towards mathematics.

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