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Evaluation of physics books for middle school in Iraq in light of the topics of the International Physics Olympiad competitions

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Abstract:

The research mainly aims to identify the extent to which physics books in high school in Iraq for the content standards of International Physics Olympic Competition. in order to achieve the main aim of the research the researcher limited the subjects of the competition descriptive analytical method which based on the content analysis have been used it is considered to be suitable way for the analysis of curricula and to collect the quantitative data. Analysis tool included subjects and graduated scale consisting of three categories; the extent of the handling, the form of handling and the level of handling. The research community consisted of all physics books in high schools in Iraq which are 5 books spread over three grades which is established to be taught for the academic year(2019 \ 2018) reliability and validity evidence were gathered, the frequencies and percentages were used as statistical means to determine the extent to which those subjects are approached . The research found a set of results which are; the subjects of oscillation and waves, electromagnetic fields, mechanic were more addressed than subjects of thermodynamics quantum physics and relativity. The form of handling was fairly acceptable as the percentage was (%63) explicit , the level of subjects was (%50) which is very low percentage. It recommended also that it is important to pay attention to the quality and depth of information to suit the level of mental learner the study also suggested conducting similar study to evaluate mathematics. computer and chemistry curricula in light of the Olympic Competition held for each subjects.

Keywords: *physics, Olympiad Competition*

I. INTRODUCTION:

Our curricula today face great challenges, the most important of which is the scientific and technological explosion , which can no longer be absorbed into the curriculum. At the same time, educational systems are required to prepare a generation capable of catching up with technology , armed with science and extremely important disciplines so that our society is not dependent on advanced countries begging for expertise and industries . This is the age of armament with science and technology.

Such a challenge raises several questions regarding curriculum planning and organization, including what kind of knowledge should the curriculum provide to learners ?How is knowledge presented and treated in textbooks, and what are the most appropriate methods for interacting with knowledge ?What is the criterion for judging the extent to which learners benefit from that knowledge?

Information age dimension educationally IV has been added , but it is the need to prepare a man age to meet the demands of life in the light of globalization , which is the four goals that are not much different from those included in the UNESCO report) Education Treasure Within) and formulated by the following face .talm to know , learn To work , learn to be , learn to share with others (Ali , 2012 ,p. 270)

From the standpoint of learning to share with others , this research comes to emphasize the role of scientific competitions and international participations such as International Physics Olympiad competitions as a complement to the curriculum.

The information age and its globalization have led to the expansion of the environment of human life and added to his family and local environment the world environment in its breadth , which made the local and global duality one of the main axes of educational philosophy

Also, the mutual influence between the peoples of the earth is growing , and no country will be able to isolate itself from the world in the era of the communications and information revolution . Therefore, the current stage of transformation in society requires preparing the individual to live in the next time , and adapting to his data in a manner that does not contradict our basic values . .The slogan (Learn to share with others) can be divided into:

1 -Getting rid of the tendencies of intolerance and violence.

2-Discovering the other through self-discovery.

3 -Developing the skills of dialogue with others.

4-the desire to share the development of others.

Hence, we must emphasize the need to look at the curriculum as a celebration of a person's intelligence and creativity , not just a group of knowledge, skills and experiences . It is no longer sufficient in evaluating educational institutions to be satisfied with the quality of the final product and the student's performance is intended . Rather , this must include the quality of the production processes themselves, which are corresponding to The quality of learning methods in terms of methodologies, teaching methods and educational techniques.

Therefore, coordination should be made between educational institutions at home and educational institutions abroad , in order to develop the infrastructure of the educational entity , to reconsider the means and ends , to invest all experiences and to learn about the experiences of countries in this regard (Ali ,2012 , p274).

The research problem arises in the following aspects:

1- through informed researcher at the International Physics Olympics site, I noticed the lack of posts to Iraq in the Olympics, as well as access to the experiences of the Gulf states that were low at the beginning and how

it reached advanced stages .Therefore, we emphasize, through the current research, the need for Iraq to participate in these international forums

2-sense of the importance of evolution j t physics curricula to face the era of science and technology advanced , where we find this interest even with the developed countries, Valsbag does not end in order to provide members of the community scientific and technological culture to enable them to cope with the requirements of this era.

3 -Students 'aversion and constant complaints about physics, and this is what the researcher noticed through her experience in the field of teaching physics , due to the physics' study being far from the laboratory and the absence of teaser methods, including competitions that push students to study this science

Research Significance:

The spirit of competition and participation in scientific competitions remains with a special taste that inflames the feelings of the learner and remains the memory of it and its positive impact on his life as he learns through it how to deal with problems within his team and this competition may reach the level of sports matches and this is why many countries and institutions are keen to qualify talented students to develop their scientific skills And knowledge and highlighting their skills at the regional and international levels by participating in the Scientific Olympiad, which is an integrated system that embraces talented and creative people in various scientific fields.

On the basis of the training nature of this competition , approved rules and agreed-upon vocabulary were laid down .A special site was also created for this competition , as good preparation for this participation is useful for the student to know the atmosphere of the competition , understand it accurately , and it is also important for the teacher, and thus the results of the students in Olympic Yad are a measure of the deficiencies and potentials of quality in education. What is deficient is addressed and what is good strengthens and does , So that the participating students are a mirror of what all students should be like in the future after recommendations are made to decision makers.

The importance of the current research is represented in the following aspects

1 -Competitions are considered an important educational tool to identify talented and distinguished students and then formulate appropriate programs for them, care for them, and refine their talents.

2 -Competitions are considered one of the means of attracting students to school by encouraging innovation and developing a culture of creativity.

3 -The competitions aim at enriching curricula and acquiring scientific expertise to form a generation of scientists by developing thinking skills.

4 -Contests contribute to the development of personality, bearing responsibility, the ability to debate and respect for others

5 -One of the characteristics of science is that it transcends borders and it is not possible to stop at the gender or color of Odin. In it, everyone speaks the same language , andeveryone shares ideas, discoveries and innovations.

6 -These competitions may contribute to the contestants obtaining scholarships in major international universities

7 -The evaluation achieves important purposes in relation to the topics included in the curriculum, as it leads to a judgment on the effectiveness of the curriculum, its suitability to satisfy the cognitive needs of the learner and their abilities and tendencies , and to identify the aspects of difficulty and ease in the subjects of the curriculum as well as the ability of the curriculum to cover the educational goals set. The above can be modified, developed and improved (Ghoneim, 2004).

Research Goals:

The current research aims to answer the following questions:

1 -To what extent does the content of the middle school physics textbooks in Iraq include topics related to the International Physics Olympiad competitions?

2 -To what extent does the content of the fourth-grade physics textbook in Iraq include topics for the International Physics Olympiad competitions?

3 -To what extent does the content of the fifth-grade physics textbook in Iraq include the topics of the International Physics Olympiad competitions?

4 -To what extent does the content of the physics textbook for the sixth grade in Iraq include the topics of the International Physics Olympiad competitions?

Research limits:

1- limited current research on the books of physics to be taught to the preparatory stage in Iraq for the academic year 2018 and 2019 , which include rows (fourth scientific , fifth scientific and biological branches of applied , the sixth scientific and biological branches of applied)

2-Topics of the International Physics Olympiad competitions published on the official website of the Competitions Committee

II. Definitions of terms:

1 -**Evaluation:**

Evaluation is to determine the extent of the success we have achieved in achieving the goals that it seeks to achieve, so that it will help us to identify problems, diagnose situations and know the obstacles in order to improve the educational process, raise its level and help it achieve the goals(Toaima 2004 , p.64)

The evaluation is defined procedurally in this research, "It is the process of enumerating the topics of the content of the International Physics Olympiad competitions and revealing the extent to which they are covered by physics books in middle school in Iraq. ".

2-**International Physics Olympiad:**

It is an annual physics competitions for high school students, which is one of the International Science Olympiad competitions .The first International Olympiad in Physics was held in Warsaw, the capital of Poland, in 1967. Each national delegation consisted of a maximum of five competing students and two leaders chosen at the national level.

3-**The Physics Book:**

The curriculum book decided by the Ministry of Education to be taught in a row according to the approved curriculum vocabulary and in accordance with the standards set by the competent educational authorities and provides the basics of the curriculum, making it easier for the teacher and the learner to know the main topics related to the objectives of the curriculum and thus represents the minimum level of knowledge for all single-stage students

III. The theoreticalframework:

The International Physics Olympiad was held between high school students and technical education schools for the first time in a year(prof Czeslaw Scislowski 1967)in the state of Poland under the auspices

Here it should be noted that the idea of holding the Olympiad goes back to three scientists from three countries that were following the axis of the Soviet Union in the middle of the last century, and they are- :

1-prof. Czeslaw Scislowski ; Poland

2-prof. Rostislav Kostial ; Czechoslovakia

3-prof.Rudolf Kunfalvi ; Hungary

As these scholars adopted the idea of establishing a Physics Olympiad among high school students , and those who are at its level of technical education, similar to the International Olympiad in mathematics .It was held in Warsaw , and it was agreed to hold the Olympiad once a year in a periodic manner .Several months before the date of the first session, the course organizers sent invitations to five countries, where the participating teams consisted of three students in addition to one supervisor .It was also agreed to form members of the Olympic Committee from among the supervisors of the participating teams, which is the committee responsible for setting up a mechanism for competition between the participating teams. The activities of the first Olympic Games extended over two consecutive days , as the first day was devoted to theoretical issues, which were four issues , today. The second was devoted to practical issues, which were a single issue.

Prior to the second Olympic Games in Budapest (capital of Hungary) in 1968 , the Commission has prepared the Olympic problem of supervisors teams participating in the session first , proposed Olympic

competition terms and vocabulary of physics that Kan will be competition between the participating teams , it was sent to a number of the Soviet Union At that time . Thus, the second session was held with the participation of eight countries . In this session, the vocabulary of physics and the executive regulations for the following Olympic Games were adopted.

In the third session in 1969, which was held in a country , a slight change was made to the composition of the participating teams, which consisted of five students in addition to two supervisors .In the sessions of 1970 , 1971 ,and 1972 , the participating countries were the same countries in the third session , but the number of students in each team consisted of six students . France also participated for the first time in the sixth session in 1972 , but in 1973 the Olympic Games did not take place . To be held again in 1974 for the second time in Poland , in which it was agreed to stabilize the number of students in teams to five , in addition to two supervisors .The following has also been adopted

The list of contest questions is four theoretical questions for the first day and one practical question for the second day.

The languages adopted in the championship are English and Russian only.

All teams are entitled to answer in the mother tongue.

Allocating a rest day between the first and second test days.

Forming an experienced secretarial committee to undertake the task of organizing and meeting the demands of all competing teams.

Finally, in 1983, the Olympic Games were held in Romania for the second time, as the focus was on the competition's regulations and how to determine the winning team as follows.

The day of the first test contains three theoretical problems.

The duration of the exam is five hours.

A day off.

The day of the second test of practical physics (one or two issues)

Since the seventeenth session 1986 until now, the Olympiad in Physics has become world-famous. It has approved rules and agreed-upon vocabulary , and a site for this competition has also been established(.Shehadeh, 2013).

The importance of analyzing the results of the International Physics Olympiad competitions:

The importance of the International Physical Olympiad competitions lies in the analysis of the results for the participating countries, which results in the following benefits:

1 -The results of the competition are dealt with in different countries in different ways. In some countries and some periods, the results are treated as a kind of great national achievement, where the participants undergo special and intensive training before the competition and afterwards the winners receive great privileges.

2 -Most countries deal with the Olympiad as a kind of measuring tool that measures the status of physics education and success or failure is not important, but success or failure for successive years must be dealt with seriously and for this reason the results of the competitions are carefully analyzed, as well as the same with regard to the problems of the competition and the decision and the result This analysis, some countries improve their national curricula in physics by introducing new methods such as thermodynamics and new topics such as relativity and quantum physics, or by reducing some traditional parts such as geometrical optics, and these changes are an additional result of the International Physics Olympiad.

3 -The analysis of the results of the competitions can contribute to determining the required period for training. In most countries the reasonable time available for training ranges from 5 to 10 days. Although there are countries such as China and Iran that allow long periods of training for students, which results in a high degree of performance, there are examples. Others contradict this correlation between training period and performance degrees.

4 -The possibilities of useful communication between the participants and the teachers, as well as focus on the dialogues about the importance of the International Physics Olympiad, where teachers can exchange ideas about the method of teaching physics and the content of textbooks , and with regard to students, especially if they join universities, there is a possibility of new meetings (Al Faisal, 2016, 380).

Previous studies:

- (Moses,2016)

Analyzing the content of the physics textbook for the third grade intermediate in the light of educational developments

This study aimed to reveal the inclusion of the content of the physics textbook for the third intermediate grade of physical innovations .The researcher followed the method of content analysis as one of the descriptive methods , adopted the explicit idea as a unit for recording , and designed a special content analysis tool for this, so it was presented to a group of arbitrators and specialists to meet the conditions of honesty .In its final form, it consisted of eight main cases, comprising 84 secondary cases , and the number of analyzed pages reached (145) pages .After completing the analysis and making sure of its validity and reliability using Cooper's equation, use frequencies and percentages for statistical treatment .It was concluded that the physics textbook for the third grade, average, achieved 21 sub-issues of what was mentioned in the analysis tool in (7) major cases only , and by 25% while 63 sub-cases were neglected, and this percentage is weak when compared to the spoken rate adopted by the researcher based on the opinions of arbitrators and specialists It is 75%, and this indicates the lack of interest in the book about physical innovations.

- (Muslim, 2013)

" Evaluation of physics books for the secondary stage in the light of comprehensive quality standards"

This study aimed to evaluate physics books for the secondary stage in the light of comprehensive quality standards , and to achieve the goal of the research, the researcher built a tool that includes comprehensive quality

standards consisting in its initial form of 6 main criteria out of which 110 sub-criteria emerged , and to verify their validity were presented to experts and specialists in physics sciences The criteria included , standards for the quality of goals , standards for quality of content , standards for quality of activities , standards for the quality of figures and images , quality standards for questions , quality standards for the technical output of the book.

The researcher analyzed the physics books for the secondary stage for the academic year (2012-2013), and evaluated them in the light of the criteria prepared by the researcher to verify the extent to which the physics books included them , and the researcher used the Holste equation to calculate the stability factor of the analysis in two ways, the first between the researcher and himself over time, reaching (0.88 , (the second way between the researcher and another analyst , where stability was (0.82) coefficient .The researcher reached several results , including that most of the physics books for the secondary stage achieved comprehensive quality standards compared to the spoken ratios of (0.70 , (and that the physics book for the sixth grade scientific is the most achieving quality standards with a ratio of (0.90 , (and in light of these results the researcher came out with several recommendations And proposals , including attention to classroom and extra-curricular activities ,including mathematical issues, so that they are appropriate for students' mental levels.

- (Al Faisal, 2013)

"Evaluation of Physics Courses for Secondary Stage in Light of the International Physics Olympiad Competitions"

This study aimed to identify the extent to which physics books developed in the Kingdom of Saudi Arabia deal with content standards for the International Physics Olympiad competitions .The researcher used the descriptive and analytical approach based on the content analysis method to collect quantitative data.

The research community consisted of all physics books developed for the secondary stage by two books for each grade , one for the first semester and the second for the second semester , and to be taught for the academic year (1436-1437 AH) .The research questions were represented in the main question: To what extent do the content of physics curricula developed in the Kingdom of Saudi Arabia include the content standards for the International Physics Olympiad competitions?

The research used a content analysis tool to set content standards for the International Physical Olympiad competitions and included four domains: The field of the nature of the course and includes (3) basic standards containing (6) sub-criteria , and the field of theoretical skills and includes (6) basic standards containing (154) sub-criteria , field Practical skills and includes (4) basic standards that contain (8) sub-criteria , and the field of sports includes (9) basic standards that contain (39) sub-criteria .After calculating the frequencies and percentages , the research reached a set of results, the most important of which are: The percentages of the course nature standard (% 58) ,(theoretical skills (%31.5), practical skills (%8.7), and mathematics standards (%1.4) In light of these results, the research came out with a number of recommendations and proposals, including: Utilizing the content standards for the International Physics Olympiad competitions by officials to amend and improve the curricula . It also suggested developing an educational preparation program for physics teachers in light of the content standards for the International Physics Olympiad competitions.

- (Almashkor, 2016)

Content analysis of the chemistry and physics textbook for the second grade average in light of test requirements Timss"

This study aimed to discover that the content of the chemistry and physics textbooks for the second grade included an intermediate exam requirementsTimss The two researchers followed the content analysis method as one of the descriptive methods, and the research adopted the explicit idea as a unit for recording. A special content analysis tool was designed for this, and it was presented to a group of arbitrators and specialists to meet the conditions of honesty .In its final form, it consisted of two main areas, the first area includes two dimensions and the second area three dimensions, and both include (94) sub-cases and the number of analyzed pages reached (250,pages) after the completion of the analysis and to ensure the validity and reliability of the tool using Cooper's equation, and the use of duplicates and percentages For statistical treatment .The percentage of analysis for the field of science requirements for chemistry and physics books was found to exceed the percentage determined by the study (2011,Timss)The percentage of analysis for the field of knowledge requirements in the books of chemistry and physics exceeds the percentage determined by the study (2011,Timss) The percentage of analysis for the field of application requirements in the physics textbook is equal to the percentage determined by a study (2011, Timss) While the percentage of analysis in the chemistry textbook exceeds it, and the low percentage of analysis for the field of analysis and inference requirements for the books of chemistry and physics over the percentage specified by the study (2011, Timss).

- (Al-Zubaidi, 2012)

This study aimed to identify the extent to which national standards for American practical education are achieved (NESS) In the content of physics books for middle school in Iraq , the research sample consisted of physics books for grades (first, second, and third intermediate). The researcher analyzed the content according to a tool that was built by him , and after the analysis, the researcher reached to the national standards for American scientific education , which were average rates for the three grades .In light of the results, the researcher reached a set of conclusions and recommendations, including: The need for textbook authors to familiarize themselves with the national standards for scientific education (NESS) In building, preparing and correcting physics books in light of them .He also suggested evaluating the content of middle school physics textbooks in light of recent global trends in science education, such as international studiesTimss

Discussing previous studies:

Through the presentation of previous studies, the following can be concluded:

1 -All studies emphasized the need to keep pace with global trends and to see everything new in the field of writing textbooks and scientific curricula, including physics books, in order to keep pace with rapid changes andbuild a generation that can keep pace with scientific and technological progress by adopting international standards, including the Physics Olympiad as in the study of Faisal The National Standards for American Scientific Education(NESS)As in the study of Al-Zubaidi, and other physical innovations.

2- participated in all previous studies using the descriptive approach based on content analysis for the purpose of data collection through analysis tool designed for this purpose.

3 -The previous studies varied in the use of the unit of analysis, the study of the Faisal used the unit of the paragraph as the unit of analysis, and the other studies used the unit of the explicit idea. In this study, the unit of the subject was used as the unit of analysis.

4 -Previous studies used almost the same statistical methods, which are the calculation of frequencies and percentages.

5 -When presenting the results, we find that some studies have concluded that achieving the criteria was at low rates, as in the study of Musa, or medium rates as in the study of Al-Zubaidi, or good in terms of and weak in others.

Search procedures:

-Research method:

Use the descriptive research methodology based on content analysis through a tool prepared for this purpose.

Content analysis is defined as (the quantitative classification of a specific content in light of a category system designed to give appropriate data for specific assumptions related to this content (Taaima, 2004, p. 69)

- The research community and its sample

The research community consisted of physics books to be taught in middle school in Iraq for the academic year (2018-2019).

As for the research sample, it is shown as in the following table:

Table No. (1) Physics books to be taught in the middle school for the academic year(2018,2019) the search tool

Number of threads	number of pages	number of units	Branch	Class	T
67	**187**	**9**	**-**	**The fourth is scientific**	**1**
79	**188**	**7**	**Biotic**	**My fifth**	**2**
105	**248**	**10**	**applied**		
89	**238**	**8**	**Biotic**	**The sixth is my knowledge**	**3**
107	**310**	**10**	**Applied**		

To achieve the aim of the study, which is to judge the extent to which physics books for the middle school stage in Iraq include topics for the International Physics Olympiad, acontent analysis tool was prepared according to the following steps:

1 -Defining the topics of the International Physics Olympiad competitions: an electronic copy was obtained from the websitehttp://ipho.phy.ntnu.edu.tw/syllabus.html On the Internet and that for the year 2017 . It has been studied in detail, precisely, and organized into 6 categories (mechanics, electromagnetic fields, vibrations and waves, relativity, quantum physics, thermodynamics and statistical physics.

2- target identification analysis tool: targeted analysis tool to judge the extent of the topic (addresses, does not address) and the form of communion (explicit, implicit (and thelevel of handling (detailed summary (Thus, the number of categories of analysis in the analysis tool is equal to the number of criteria (6) In scale levels (4) , any (24) analysis categories.

3 -Unit of analysis :the subject unit was chosen theme (As a unit of content analysis for being appropriate to achieve the research objective) .And one of the most important content analysis units may be a simple sentence or an idea revolving around a specific issue (Taaima , 2009 , p .321).

4 -Determining the categories of analysis: The initial image of the research tool was prepared in such a way that it included the introduction and data of the books subject to analysis, instructions for using that tool, then the categories of analysis (the content of the analysis tool) represented in the topics and a graded analysis scale consisting of three axes:

The first axis: Determine the extent to which the topic is addressed in two levels (dealing with - not addressing)

-The second axis: Define the form of discussion in two levels (explicit - implicit). If the concept is addressed in the form of a separate title, the discussion is "explicit" and if the topic is not assigned a title of its own, the discussion is "implicit"

-The third axis: the level of discussion is defined in two levels, "detailed - brief." The topic highlighted most of the aspects related to the concept from mathematical expression and life issues and applications, the discussion was "detailed", either if it was limited to explaining the concept or mentioning one aspect or one application or one issue The intake is "implicit"

Setting the analysis tool

1 -Validate the analysis tool

The concept of instrument validity is that a tool measures the characteristic that it is designed to measure .The researcher believes that this tool fulfills the condition of apparent validity because these topics are prepared by the International Physics Olympiad Competitions Committee, so it is not possible to delete or add any new topic.

1-Stability of the analysis tool : The researcher used two types of reliability:

2 -Stability over time: it means obtaining the same results when applying the rules of analysis to the same content being analyzed at different times, the researcher analyzed a sample of the content and after a month passed, she re-analyzed the same unit and the Holste equation was used to calculate the stability between the two analyzes, where it reached (90%) It is a good percentage.

3 -Stability between analysts: The researcher analyzed the same material with another analyst after training him on how to analyze using the same rules of analysis, and after calculating the stability among analysts using the Holste equation , the stability ratio reached (88%), which is also an acceptable ratio.

Analysis procedures:

The researcher used the following procedures in the analysis process:

1 -Obtaining a list of physics topics prepared for the International Physics Olympiad competitions and translating them with the help of the sources "The Dictionary of Physics" and" Encyclopedia of Scientific Definitions of Physics". Then the translation was presented to a specialist in English translation in order to show the accuracy and clarity of the translation.

2-Read the topics carefully so that the picture becomes clear in the mind of the analyst.

3 -Comparing each topic mentioned in the physics book with the topic mentioned in the Olympiad list to determine the affiliation of the topic and its content.

4 -Calculate the frequencies in the table of the analysis tool.

5 -Calculating the percentages for each iteration and discussing the results.

statistical methods

The two researchers used to process the data statistically using the ready-made statistical program for social sciences ,which is(spss -x)

IV. View and discuss results

This study attempted to answer the following question: "To what extent do physics textbooks for middle school in Iraq include topics for the International Physics Olympiad competitions"?

Intake level				**Eating form**				**Intake range**				**Number of threads**	**Threads**	
the summary		**Detailed**		**Implicit**		**Explicit**		**Not eating**		**Eating**				
%	**T**	**%**	**T**	**%**	**T**	**%**	**T**	**%**	**T**	**%**	**T**			**T**

32	**11**	**68**	**23**	**15**	**7**	**59**	**27**	**26**	**12**	**74**	**34**	**46**	**Mechanics**	**1**
51	**19**	**49**	**18**	**49**	**18**	**51**	**19**	**30**	**16**	**70**	**37**	**53**	**Electromagnetic fields**	**2**
59	**20**	**41**	**14**	**44**	**15**	**56**	**19**	**41**	**24**	**59**	**34**	**58**	**Vibrations and waves**	**3**
67	**4**	**33**	**2**	**50**	**3**	**50**	**3**	**45**	**5**	**55**	**6**	**11**	**Relativity**	**4**
50	**6**	**50**	**6**	**42**	**5**	**58**	**7**	**33**	**6**	**67**	**12**	**18**	**Quantum Physics**	**5**
56	**9**	**44**	**7**	**25**	**4**	**75**	**12**	**53**	**18**	**47**	**16**	**34**	**Thermodynamics and Statistical Physics**	**6**
50	**69**	**50**	**70**	**37**	**52**	**63**	**87**	**37**	**81**	**63**	**139**	**220**	**Total**	

Table No. (2) shows a comprehensive view of the frequencies and percentages of the distribution of International Physics Olympiad topics on the physics curricula in middle school:

The above table shows a comprehensive view of the topics of the International Physics Olympiad and the rates of their representation in physics books for the preparatory stage (the fourth scientific, the fifth scientific in its biological and applied branches , and the sixth in the middle school in the biological and applied branches , (and the percentage of interaction was (63%), which is an acceptable percentage , as the topics of vibrations and waves occupied, Electromagnetic fields, then mechanics, the largest proportions, which are important topics and are considered the basics of physics, followed by thermodynamics, quantum physics and relativity , and the researcher believes that this arrangement is important because it focuses on the succession of concepts and their relevance to each other, so that it gives the student a connected and coherent picture to understand the nature of physics and its phenomena .As for the form of the discussion, the percentage was also (63%) of the percentage of the subjects covered .In terms of the level of interaction, the percentage was (50%) of the percentage of subjects covered, and the researcher believes that these low percentages are due to the integration of the physics curriculum with the mathematics and chemistry methodologies, as there are subjects that are explained in depth in the mathematics curriculum such as calculus. And many thousand physicists feel that mathematics Express deeply

The answer to the second question " , How to include book physics fourth grade scientific topics Olympics competitions International Physics. " ?

Table No. (3) shows the frequencies and percentages of the fourth grade physics topics.

Intake level				Eating form				Intake range		Threads	T
the summary		Detailed		implicit		Explicit		Frequent intake			
%	T	%	T	%	T	%	T	%	T		
0	-	7	10	0	-	7	10	7%	10	Mechanics	1
0.7	1	0.7	1	0.7	1	-0.7	1	1%	2	Electromagnetic fields	2
4	5	5	7	4	6	4	6	9%	12	Vibrations and waves	3
0	-	0	-	0	-	0	-	0	-	Relativity	4
0	-	0	-	0	-	0	-	0	-	Quantum Physics	5
1	2	1	2	1	2	1	2	3%	4	Thermodynamics and Statistical Physics	6
6	11	14	17	6	9	13	19	20%	28	Total	

It is evident from countries No. (3) that some topics are available in a high degree, which are vibrations and waves by(9%)and mechanics(7%) of the percentage of covered topics . As for the other topics, they are poorly represented or non-existent . As for the format of the discussion, most of them are explicitly represented(13%)which is also an acceptable percentage .As for the level of intake, it came at a rate of(14%)explicitly, and it is also an acceptable percentage if taking into account the mental level of this age group.

Table No(4) shows the frequencies and percentages of physics subjects for the fifth grade of science in both the biological and applied branches.

Intake level				Eating form				Intake range		Branch	Threads	T
%	the summary	%	Detailed	%	Implicit	%	Explicit	%	T			
8	11	9	13	5	7	12	17	17	24	Bioassay	Mechanics	1
8	11	9	13	5	7	12	17	17	24	Applied		
0	-	0	-	0	-	0	-	0	-	Bioassay	Electromagnetic fields	2
9	12	5	7	8	11	6	8	14	19	Applied		
4	6	4	6	2	3	4	9	9	12	Bioassay	Vibrations and waves	3
4	6	4	6	2	3	4	9	9	1 2	J app		
0	-	0	-	0	-	0	-	0	-	Bioassay	Relativity	4
0	-	0	-	0	-	0	-	0	-	Applied		
0	-	0	-	0	-	0	-	0	-	Bioassay	Quantum Physics	5
0	-	0	-	0	-	0	-	0	-	Applied		
0	-	0	-	0	-	0	-	0	-	Bioassay	Thermodynamics and Statistical Physics	6
2	3	4	6	1	2	5	7	6	9	Applied		
12	17	14	19	7	10	19	26	26 %	36	Bioassay	Total	
23	32	23	32	17	23	64	41	46 %	64	Applied		

It is evident from the above table that the science curriculum for the fifth grade is that there is a great discrepancy between the extent to which physics topics are addressed to the biological and applied branches for the account of the applied branch ,where the physics book for the biological branch focused on the topics of mechanics, vibrations and waves, and neglected the topic of electromagnetic fields, as we find that there is an empty ring that will have The student to re-study or return to its principles in the biological sixth grade . Whereas, there remains little or no discussion of issues of relativity and quantum physics in this approach for both branches.

Table No (5) shows the frequencies and percentages of the sixth grade physics subjects in the biological and applied branches

Intake level				**Eating form**				**Intake range**		**Branch**	**Threads**	**T**
%	**the summary**	**%**	**Detailed**	**%**	**implicit**	**%**	**Explicit**	**%**	**T**			
0	**-**	**0**	**-**	**0**	**-**	**0**	**-**	**0**	**_____**	**Bioassay**	**Mechanics**	**1**
0	**-**	**0**	**-**	**0**	**-**	**0**	**_____**	**0**	**-**	**Applied**		
4	**6**	**6**	**9**	**4**	**6**	**6**	**9**	**11**	**15**	**Bioassay**	**Electromagnetic fields**	**2**
4	**6**	**7**	**10**	**4**	**6**	**7**	**10**	**12**	**16**	**Applied**		
6	**7**	**2**	**3**	**4**	**6**	**3**	**4**	**7**	**10**	**Bioassay**	**Vibrations and waves**	**3**
6	**7**	**2**	**3**	**4**	**6**	**3**	**4**	**7**	**10**	**Applied**		
3	**4**	**1**	**2**	**2**	**3**	**2**	**3**	**4**	**6**	**Bioassay**	**Relativity**	**4**
3	**4**	**1**	**2**	**2**	**3**	**2**	**3**	**4**	**6**	**Applied**		
4	**6**	**4**	**6**	**4**	**5**	**5**	**7**	**9**	**12**	**Bioassay**	**Quantum Physics**	**5**
4	**6**	**4**	**6**	**4**	**5**	**5**	**7**	**9**	**12**	**Applied**		

0	**-**	**2**	**3**	**0**	**_____**	**2**	**3**	**2**	**3**	**Bioassay**	**Thermodynamics and Statistical Physics**	**6**
0	**-**	**2**	**3**	**0**	**-**	**2**	**3**	**2**	**3**	**applied**		
17	**23**	**17**	**23**	**14**	**20**	**19**	**26**	**33%**	**46**	**Bioassay**	**Total**	
17	**23**	**17**	**24**	**14**	**20**	**19**	**27**	**34%**	**47**	**Applied**		

It is evident from the above table that the physics curriculum for the sixth grade of middle school, with its biological and applied branches, has a variety of topics as it is characterized by modernity, such as relativity and quantum physics, and these topics constitute strengths in this curriculum due to their importance in giving a realistic and modern picture to students about this science ,which is consistent with the study of Muslim. Physics for the sixth year of middle school is the most comprehensive quality standard . Either in terms of the form of communion and the level of intake came at rates of(19%)express, and(17%) ,a detailed low rates of can be explained to the nature of the content and difficulty and mental abilities of the learner . In addition to keeping the physics lesson away from the laboratory

V. Conclusions:

Through presenting the results, the research reached the following conclusions:

1 -The emergence of a clear complementarity between the three grades of the preparatory stage. These curricula presented physics topics in continuous and coordinated steps starting from the basics (mechanics, electromagnetic waves, vibrations, waves and thermodynamics) to advanced physics subjects (relativity, quantum mechanics . (This distribution is consistent with a study conducted in Palestine "Developing Physics Curricula at the Secondary Level in Palestine for the Eleventh Century", where the researchers reviewed the experiences of several countries (Japan, the United States of America, Britain, Canada, China and the Gulf countries) in building a proposed concept for a physics curriculum. In Palestine.

2-ranch (41%) While the difference was not clear in the physics textbook for the sixth grade, as it was for the biological branch (26%) and for the applied branch (27%) Here, we emphasize the fact that physics is indispensable with the emergence of scientific disciplines, as it is a fundamental pillar of civilization , and the basis for scientific and technological progress in various fields .This confirms the need to make efforts to present this science in the best way to learners.

3- There is an effort clear by the authors of the curriculum in the ministry to integrate mathematical skills in the curriculum of physics (such as charts, inclination account, Trigonometric ratios, etc , (.but the nature of physics impose greater integration between the systematic mathematics and physics due to the high level of questions of physics at the Olympics, which require Greater mathematical skills.

Recommendations:

In light of the research results, the researcher recommends the following:

1-to develop practical plans by officials of paper school competitions for the benefit and interest on the educational process.

2 -Allocating prizes for competitions is an urgent necessity, as they require material and moral support that pushes the teacher and the learner to make the utmost effort to reach advanced levels.

3 -Creating booklets aimed at students who are excelling in the subject of physics ,expanding and deepening the presentation of the scientific material while integrating it with mathematical skills in a way that qualifies them to compete in this kind of international competitions.

4 -Paying attention to classroom and extra-curricular activities ,including mathematical issues, so that they are appropriate for students' mental levels.

5 -Paying attention to the quantity and the information depth that suits the students' mental level.

6-Emphasis on the role of the laboratory in the school and the necessity of training students in the use of scientific devices in acquiring physical concepts.

7 -Include textbooks in a list of references and sources related to the book's topics.

8 -The necessity of conducting developmental courses for physics teachers and informing them of everything new in the field of physics teaching methods.

The proposals:

In light of the research results, the researcher suggests conducting the following research:

1 -Conducting more research and studies to evaluate mathematics, chemistry and computer subjects in light of the standardsof the International Science Olympiad competitions.

2 -Development of educational preparation programs for physics teachers in light of content standards for the International Physics Olympiad competitions.

3- more research and studies to identify gifted students of both sexes and enhance their participation in international competitions.

4 -Conducting a similar study to analyze the content of science books at the primary level in light of the content standards for the International Science Olympiad competitions .

5- more research and studies to evaluate the books of physics in the light of other international standards.

6 -Conducting an evaluation study of the ministerial examination questions in light of the questions of the International Physics Olympiad competitions.

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