

Developing curricula at the secondary level according to the pathways system

--Towards an innovative path in Saudi schools-

تطوير المنهاج الدراسية في المرحلة الثانوية وفق نظام المسارات
-نحو مسار ابتكاري في المدارس السعودية-

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Abstract:

In the 2021-2022 academic season, the Kingdom of Saudi Arabia adopted the Education Project according to the Pathways System in the secondary stage. This project aims to improve the quality of education and align the outcomes of the educational system with the needs of the labor market. The Secondary Stage Pathways System provides an advanced educational model that contributes to efficiency. It develops the student's personality, enhances his loyalty to his leadership and his national affiliation. Accordingly, this research paper aims to introduce the paths system project and reveal its advantages through research into its general philosophy, goals, and study plans. Approved in its implementation, along with providing applied models of the curricula that were developed to be compatible with the project specifications and the directions of Saudi Arabia in light of Vision 2030.

Keywords: Pathways system - Vision 2030 - Specialized paths-high school

ملخص:

اعتمدت المملكة العربية السعودية في الموسم الدراسي 2021-2022 مشروع التعليم وفق نظام المسارات في المرحلة الثانوية، ويعد هذا المشروع في طليعة الجهود الرامية إلى تحسين جودة التعليم، ومواءمة مخرجات المنظومة التعليمية مع احتياجات سوق العمل، فنظام مسارات المرحلة الثانوية يقدم أنموذجاً تعليمياً متطوراً يسهم بكفاءة في تنمية شخصية الطالب، ويعزز من ولائه لقيادته وانتمائه الوطني، ويتضمن مسارات نوعية متخصصة تؤهل مخرجات هذه المرحلة لاستكمال التعليم الجامعي ودخول سوق العمل، وعليه تهدف هذه الورقة البحثية إلى التعريف بمشروع نظام المسارات والكشف عن مميزاته من خلال البحث في فلسفته العامة وأهدافه و الخطط الدراسية المعتمدة في تنفيذه مع تقديم نماذج تطبيقية عن المناهج الدراسية التي تم تطويرها لتتواءم مع محددات المشروع و توجهات المملكة العربية السعودية في ظل رؤية 2030
الكلمات المتاحة: نظام المسارات - رؤية 2030 - المسارات التخصصية - التعليم الثانوي

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1.Introduction:

The achievements of the third millennium and its future challenges are imposed on all nations (individuals and Institutions) A certain level of performance in most fields and specific degrees of competence of various types measured according to international quality standards and falling within the context of global competition that is based on the continuous ability to be effective, influential and positive. It aims to achieve excellence, distinction and creativity in a serious effort for good positioning in Map of the new world with its political, economic, social and cultural variables, and according to the current situation, the idea of keeping pace with the developments that are being introduced is no longer sufficient to catch up with the civilizational pace or achieve leadership at the global level, as developed countries are betting on two indicators quality of preparation And quality production.

The issue of ensuring quality in education has received a large share of attention, both ancient and modern, and its pace is becoming more acute at the present time because of education's close relationship with economic growth and sustainable development. Educational outcomes are responsible for raising the challenges facing the state because they are its basic pillar and greatest hope. Therefore, the issue of curriculum quality is one of the most controversial and debated issues.

2. Ensuring quality in education

Define quality in the educational field it is "continuous improvement of quality through attention to the inputs, processes and outputs of the educational system. To exceed labor market expectations, and acquire the ability to deal with modern global changes in a way that meets the needs of society, Therefore, it is an intensive process that requires the effort of all members of the organization" (Abdo Falia, 2007, p. 344) The quality of education is measured according to the evaluation plan followed and studied at international levels and quality standards are applied according to the following components:

- Quality of preparation and infrastructure.
- Quality levels of competence.
- Evaluation quality.
- Quality of implementation and investigation.
- Quality of supervision and control (Salama, 1995, p. 32)

The concept of quality aims in educational institutions mainly to develop the institution and the educational system, as this concept includes the following elements: Adopting international standards used for comprehensive quality purposes.

Apply these standards to the educational institution or educational program.

Improving the outcomes of the educational institution or educational program in light of comprehensive quality results (Abdel Halim, 2005, p. 5)

3. Developing curricula according to the comprehensive quality approach

The development of curricula study according to the comprehensive quality approach, it is required to "develop scientific standards dedicated to examining outcomes, so that these standards are based on a scientific reference in the field of quality and education that is reliable and formulated in light of the findings of many educators. These standards represent a frame of reference that provides a scientific basis for developing programs and judging their quality" (Arab Bureau of Education for the Arab Gulf States, 2020, p. 12) On this basis, the concept of total quality can be applied so that it is:

- Inclusive of the system's inputs, operations and outputs.
- Inclusive of all those belonging to the organization at all levels.
- Inclusive of all activities and programs.
- Inclusive of various human, material and technological elements.
- An endless journey of continuous improvement and development. (Rajab, 2008, p. 80)

As the curriculum evaluation and development project is part of the study within the strategies for developing education that all countries that aspire to development call for, as there is no development or change in social and economic conditions except by changing educational systems and educational institutions. Seven strategies have been identified for developing education. Each country adopts the strategy that suits the situation it is living in. These strategies are as follows:

- Quantitative expansion strategy.
- Strategy to focus on the quality and efficiency of education.
- Adult literacy strategy.
- The strategy of giving priority to education in areas of poverty and backwardness.
- The strategy of prioritizing education in newly developed societies and liberated territories.
- Non-formal education strategy.
- Comprehensive, multi-dimensional strategy and objectives (Rajab, 2008, p. 83)

Adopting such pioneering and global projects requires a multi-dimensional and multi-directional strategy because the criteria for success are no longer national but global. And the experiences Success imposes a quality of work and performance that must be taken into account, and there is a growing interest in controlling quality standards in educational institutions. The United Nations Educational, Scientific and Cultural Organization (UNESCO) issued an independent report on behalf of the international community under the title (Education and Learning, Achieving Quality for All), and it is considered the Education for All Global Monitoring Report 2021-2022. One of the important reports that guided many countries' policies in the field of educational development (United Nations Educational, Scientific and Cultural Organization (UNESCO), 2021, p. 152)

4. Developing school curricula in the Kingdom of Saudi Arabia according to Vision (2030)

The Ministry of Education pays great attention to the curricula by building and developing them in line with the great and accelerating wheel of development that the Kingdom of Saudi Arabia is experiencing in all fields, and in line with modern scientific and technical developments, and in line with global trends in light of the Fourth Industrial Revolution and skills. The twenty-first century and achieves one of the requirements of the Kingdom's Vision (2030) in preparing advanced educational curricula that focus on basic skills, in addition to developing talents and building personality. (Ministry of Education, 2022, p. 4)

The march development Curricula Study is practical ongoing And it is continuing, as the Ministry of Education established on September 2, 1440 a specialized center for curriculum development, and a main committee for study plans and curricula was formed to undertake the tasks of supervising the development of study plans and curricula by studying, evaluating, and developing them in accordance with the needs of the developmental stage that the Kingdom of Saudi Arabia is experiencing under

the shadow of Achieving the goals of Vision 2030, and an executive program was adopted to develop educational paths and plans at the secondary level in 1441. And he came years 1443-1444H / 2021-2022 AD To announce them birthday number from Curricula Scholarship New, And development number from Curricula Scholarship List of what he achieves Objectives, And contributes in Preparation Students education general for life and work, And qualifies them To compete globally. 132 curricula were developed, and 55 new curricula were prepared during the academic years 1443-1444 (Ministry of Education, 1443, p. 5)

1.4. Justifications for developing school plans and curricula

14 justifications were identified to develop plans and curricula by the Saudi Ministry of Education, we will present the most important ones, from our point of view, which are:

- In response to achieving the goals of Vision 2030
- Providing advanced curricula that support students' acquisition of 21st century skills
- Meeting the requirements and needs of the labor market by directing graduates of secondary school tracks to it after they obtain the appropriate educational track
- Changing the prevailing view on the concept of secondary education as a preparatory stage for university education only
- Developing secondary education to support achieving the goal of abolishing the preparatory year at the university stage in the long term and providing teaching of some subjects from the university preparatory year to the secondary stage. (Ministry of Education, 1443, p. 6)

2.4. Development goals Curricula Scholarship

Identify the center specialized in curriculum development in the Saudi Ministry of Education 13 goals for developing the curriculum starting from the academic season 1443-1444AH / 2021-2022 AD, we chose what we thought would contribute to clarifying Saudi Arabia's vision through developing education, which is as follows:

Keeping pace with development and international standards in various modern curricula, and achieving the requirements of twenty-first century skills, the industrial revolution, and the new economy

Preparation the student for life and work, And prepare him for the next stages in His educational career.

Strengthening loyalty to the wise leadership and appreciating its role in developing the nation and the citizen.

Includes the concepts of the vision of the Kingdom of Saudi Arabia and its contents in textbooks.

Providing various materials for curricula: paper, electronic, interactive, video and other materials designed according to the highest standards and finest specifications.

Providing integrated electronic courses designed by specialized scientific teams in accordance with international standards for all new curricula and many existing curricula, linking these curricula with interactive electronic content linked to the learning objectives in each study unit, and providing explanations from a specialized teacher. It uses various tools for measurement and evaluation. (Ministry of Education, 2022, p. 5)

5. Project development system paths stage high school

The Ministry of Education is keen to continuously develop and improve the secondary stage by following the best international practices, and to achieve the most important requirements of the Kingdom of Saudi Arabia's Vision (2030), which considered

education as one of the main pillars of the comprehensive and sustainable development process.

The Ministry of Education's focus on education and its quality comes from the belief of its decision-makers that education is a major entry point for building a comprehensive strategy to achieve the state's vision, based on the fact that the strength of societies is shaped by the strength and level of education. The more educational practices are functional, quality, and consistent with the demands of the times; Whenever this is an important addition of value, knowledge and skills to society.

The secondary pathways system came to help achieve the requirements of future national development in the Kingdom in accordance with Vision (2030) by creating alternatives and opportunities for the student. To choose a path that suits his inclinations and abilities, and provides him with modern skills and competencies, that Help him in preparation for life, and completing his post-secondary education also gives him the opportunity to participate in the labor market.

The project to develop the secondary stage paths system comes at the forefront of efforts aimed at improving the quality of education and aligning the educational system's outcomes with the needs of the labor market. The secondary stage paths system provides an advanced educational model that contributes efficiently to the development of the student's personality, enhances his loyalty to his leadership and national affiliation, and includes qualitative paths. Specialization: The graduates of this stage qualify to complete university education and enter the labor market.

There is no doubt that implementing the Pathways system requires the combined efforts of all stakeholders in the field, investing and developing competencies, and motivating them to actively participate in achieving this distinguished educational model on the reality.

The paths system includes five main paths:

- General path
- Computer Science and Engineering path
- Health and life path
- Business Administration path
- The Sharia path (Ministry of Education, 2021, p. 5)

6. Philosophy of the paths system in secondary education

The pathways system is based on a philosophy that believes in the necessity of transferring the student from a passive recipient of knowledge to a participant and producer of knowledge. The new system is a serious attempt to evaluate the most prominent practices in the history of secondary education in the Kingdom of Saudi Arabia, and to evaluate global practices in the secondary stage in general in order to come up with a developed model. It combines the demands of the times, science and applicability (Ministry of Education, 2021, p. 9)

The pathways system in general is based on a renewed philosophy based on expanding opportunities and student participation. Just as it prepares the student for life and to complete his post-secondary education, it also gives him the opportunity to participate in the labor market. Through the pathways system philosophy, the student is able to exercise more than one role that makes him a partner in the knowledge industry, not Just a future and a consumer of it. According to this system, the student can keep pace with the changes around him in the twenty-first century, and in a way that achieves the goals of the Kingdom's Vision 2030.

1.6. Strategic objectives of the pathways system

The pathways system at the secondary level aims to achieve a number of strategic goals that the Kingdom of Saudi Arabia is betting on in its Vision 2030, including the following:

- Graduating a learner prepared for life, qualified for work and able to continue his education
- Promoting religious values and national identity
- Interaction with global developments
- Expanding and diversifying learning opportunities
- Improving the secondary education system
- Promoting an effective educational environment
- Development of curriculum processes (Ministry of Education, 2021, p. 15)

2.6. Foundations and pillars

The paths system is based on a number of foundations, as follows:

-Integration between materials:

The system proposes a balanced study plan, distributed in the form of study subjects that complement each other. To help the student highlight his energies and develop his inclinations and talents.

-Integration between paths:

The system allows sharing space between paths in general, and between domain paths. In particular, it greatly supports the idea of integration.

-Balance:

Formulating a precise framework in which each subject is placed under the scope that suits it, and then given the Relative position that enables it to achieve its objectives.

- Flexibility:

The ability of the student to change his specialty even if he finishes the second year through the bridging system, and the availability of wider options for the student to choose the major that is closest to his inclinations and abilities.

- Inclusion:

The paths system includes all the requirements that the student needs during his learning period.

- Distance learning:

Distance learning options are available in the pathways system, ensuring that a wide segment of students are given the opportunity to study courses that are compatible with their inclinations, and support the career orientation of those who want to join the labor market after completing secondary school. At the same time, it enables the concerned authorities to reduce expenses related to providing qualified teaching staff to teach these courses in each school.

- Elective field:

The Pathways system offers an optional field based on bridging the gap between the skills required for the workforce and the needs of the labor market, where the student joins one or more specific field lines according to a functional skills condition.

-Mastery classes:

Mastery classes consist of providing supportive or enriching educational activities to students according to their achievement or skill needs, and aim to improve the students' main competencies. To help them achieve success, avoid failure and stumbling in the paths system. It also aims to develop the level of competence of outstanding students to enable them to excel in performance and achieve high levels of learning outcomes.

- Academic guidance:

The system seeks to provide academic guidance services to help students discover their abilities and potential, support them in making decisions related to study plans, choose appropriate paths for them, choose an elective field, and determine the skills they want to acquire to prepare them for the labor market. So; The efficiency of the pathways system is closely linked to the effectiveness of the academic advising system and its ability to support students and assist them in making the right decisions about their future.

- Evaluation:

Evaluation depends on a set of various methods and tools, whether through traditional tests or alternative evaluation, according to each specialty. To improve learning processes and the learner's growth in a correct way, evaluation grades are distributed according to the demands of each field and specialization, and according to the objectives of each subject.

- Cumulative average:

The pathways system is based on the cumulative average, which is calculated in light of the semester averages, in varying proportions, and represents the average of all grades for the subjects that the student successfully studied during the semesters in the secondary stage.

- Thinking and problem solving:

This system is based on new materials in specializations that stimulate the practice of thinking. General materials have also been included to develop the student's research and thinking skills.

- Volunteer work:

Volunteering is a major part of this system, and the student provides it through tasks assigned to him through interaction with the surrounding community. Volunteering is one of the main pillars that contribute to building positive attitudes and values among students, and it also represents an important link in community development. The importance of this in the Pathways system is to provide learners with distinct and integrated experiences concerned with developing the learner's personality in all cognitive, social, and emotional fields. This is achieved by students completing graduation requirements, including completing a number of volunteer work hours that fulfill their desires for learning, acquiring skills, and personal and emotional growth.

- Graduation Project:

The Pathways System requires that each student submit a graduation project in his or her field of specialization. This aims to apply what he has learned and integrate his theoretical experiences with applied practices. The graduation project represents one of the important learning outcomes that the student achieves after studying the specialized paths, and it is one of the main requirements for obtaining the high school diploma. It aims to measure and evaluate the academic and skill level students have reached in the Pathways system. Its purpose is to connect students to their paths by providing them with the opportunity to delve deeper into one of the areas of their specialized paths (Ministry of Education, 2022, p. 11)

7.Specialized paths in secondary education

Given the multiplicity and diversity of specialized pathways for the secondary stage; Each track is built on a philosophy consistent with the desired goals, as follows:

1.7.General path:

The general path of providing learners with positive knowledge, skills and attitudes towards science, technical and mathematics disciplines, and promoting the integration

of scientific and human fields through the use of various educational entrances and directions, such as: using a curriculum based on the integration of science, technology, engineering, arts and mathematics STEAM

The general path presents the curriculum in a manner that enhances analytical skills, scientific thinking, investigation, and problem solving in practical ways. It also focuses on the digital aspect to prepare a learner who possesses the scientific and mental skills and abilities that qualify him to participate effectively in developing the nation, building the knowledge economy, and making decisions that benefit him in his personal, educational, and professional life.

2.7. Health and Life Path:

The philosophy of the path stems from the vision of the Kingdom of Saudi Arabia 2030, which aims to build a successful and pioneering model in the world in all fields, including the field of health and life sciences, which aims to enhance health and well-being and develop the national economy by investing the energies of the people of the country to reflect positively on the quality of health services in its preventive and curative sections.

The path takes into account the link between theory and practice by providing the student with realistic problems from the environment and daily life. To contribute to the development of academic achievement, and the development of skills and attitudes towards scientific fields, through curricula that are characterized by depth of knowledge and skills, and enhance integration between the different branches of science. The materials employ several curricula, including the science, technology, engineering and mathematics curriculum, which enhances conceptual understanding through the use of teaching strategies that enhance the role of the learner. The path provides students with skills, knowledge, and positive attitudes that contribute to enhancing volunteer work in the service of society, especially in the field of combating epidemics.

3.7. Computer and Engineering Path:

Due to the influence of the economic and educational aspects on each other, which means the importance of the labor market; It is important to work in the educational field to enhance the various twenty-first century skills that are related to dealing with technology, to provide students with the skills to access information, evaluate its reliability, analyze it, and use it, In addition to enabling students to create and innovate in all fields. Therefore, the philosophy of the path is based on the integrated approach between science, technology, engineering and mathematics, and the path aims to form positive attitudes towards technical specializations, in addition to enabling students to be creative and innovative in all fields. The path also aims to raise a generation that produces technical solutions and contributes to building society. The path enhances the skills and qualities required by the labor market in the Fourth Industrial Revolution.

4.7. Business path:

The path seeks to develop the life skills of secondary school students necessary to achieve economic success, and the transition to education based on the knowledge economy, as well as expanding educational opportunities by giving the learner twenty-first century skills that qualify him to continue studying in one of the related specializations. It also contributes to the learner's knowledge of the international market and economic systems, while encouraging creativity and entrepreneurial thinking.

This is why the philosophy of the business path is based on preparing the learner to become a responsible and productive citizen capable of making smart decisions that

benefit him in his personal, educational and professional life. By providing him with the expertise he needs in the scientific fields related to business. The learner builds a perception of the promising professional and academic opportunities associated with them, in order to make correct decisions towards life and future educational and professional direction based on knowledge, skills, attitudes and professional values acquired during the course of study.

5.7.The Sharia path:

The Sharia path seeks to strengthen the cognitive, religious, devotional, moral and behavioral foundations, Islamic values and national identity, and build the moderate personality among students. To be able to work constructively in their society, and to form a scientific personality that is committed and distinguished in its deep and comprehensive understanding of the Holy Qur'an, the Noble Prophet's Sunnah, and the legal rulings derived from them, and to prepare qualified students to know the rulings of Sharia in all new matters of life, and to prepare them for future jobs. (Ministry of Education, 2022, p. 12)

8.Study plan in the Pathways system

The study plan is built on the basis of semesters consisting of nine semesters offered over three academic years. Each semester is independent with its own academic subjects, requirements, tests, and results, with special steps for academic subjects that extend for more than one semester. The duration of each semester is determined according to the academic Evaluation issued by the Ministry of Education.

The study system is based on a study plan that includes specific study subjects with a weight consistent with the nature of the study subject and the scientific content.

Study takes place according to a school schedule consisting of 6-7 classes per day, during which the student studies the subjects specified in the study plan.

A regular student's stay in school does not exceed 5 academic years, including periods of interruption and postponement, provided that he does not exceed the age specified by the admission systems. He will then be referred to the appropriate academic system for his age group, and his academic record will remain active in the system according to the academic status at which he stopped.

The system offers a summer semester for students who wish to change their course (bridging) or according to what is stated in the regulations and controls governing this. Blended learning and enrollment are allowed in all government secondary schools, and education departments have the authority to designate schools in neighborhoods.

The student's study system (regular/integrated/associate learning) is counted in the stage completion certificate as the highest number of study hours studied in the semesters. If the number of study hours is equal, the student's study system is counted as regular.

A student who repeats the school year only retakes the subjects he did not pass.

If the student chooses blended learning, he is obligated to attend a number of hours of the academic subject according to (a guide for distance learning and blended learning) (Ministry of Education, 2022, p. 14)

9. Examples of the new curricula in the pathways system at the secondary level

1.9. Data Science Curriculum:

It is an electronic course, which includes interactive electronic content linked to learning objectives and uses various tools for measurement and evaluation. It targets the second year of the Pathways system. It aims to provide the student with the basics of data science and computational thinking skills by dealing with data as a basic

resource that can Benefiting from it in understanding reality and making future decisions at the personal and societal levels. The course includes applied works of what the student has learned to solve realistic problems in the educational and economic field. (Ministry of Education, 2022, p. 10)

Figure 1: Data Science Curriculum

<p>3. التحليل الاستكشافي</p> <p>94 للبيانات</p> <p>الدرس الأول</p> <p>95 تحليل البيانات</p> <p>105 تعريفات</p> <p>الدرس الثاني</p> <p>108 مكتبات البيتلون لتحليل البيانات</p> <p>127 تعريفات</p> <p>الدرس الثالث</p> <p>130 تصوير البيانات</p> <p>139 تعريفات</p> <p>142 المشروع</p>	
<p>4. نمذجة البيانات التنبؤية والتوقع</p> <p>144 والتوقع</p> <p>الدرس الأول</p> <p>145 نمذجة البيانات التنبؤية</p> <p>157 تعريفات</p> <p>الدرس الثاني</p> <p>160 التوقع (Forecasting)</p> <p>182 تعريفات</p> <p>الدرس الثالث</p> <p>185 التحسين (Optimization)</p> <p>202 تعريفات</p> <p>205 المشروع</p>	
<p>1. مقدمة في علم البيانات</p> <p>8.....</p> <p>الدرس الأول</p> <p>9 البيانات والمعلومات والمعرفة</p> <p>17 تعريفات</p> <p>الدرس الثاني</p> <p>21 التعامل مع البيانات</p> <p>29 تعريفات</p> <p>الدرس الثالث</p> <p>34 أساسيات علم البيانات</p> <p>39 تعريفات</p> <p>45 المشروع</p>	
<p>2. جمع البيانات والتحقق من صحتها</p> <p>46 من صحتها</p> <p>الدرس الأول</p> <p>47 جمع البيانات</p> <p>55 تعريفات</p> <p>الدرس الثاني</p> <p>57 أنواع البيانات</p> <p>62 تعريفات</p> <p>الدرس الثالث</p> <p>65 التحقق من صحة إدخال البيانات</p> <p>89 تعريفات</p> <p>92 المشروع</p>	

Source: Features of Saudi Curriculum Development, Ministry of Education, Kingdom of Saudi Arabi (2022)

2.9. The Internet of Things Curriculum:

It is an electronic course, which includes interactive electronic content linked to learning objectives and uses various tools for measurement and evaluation. It targets the second year of the Pathways system. It aims to provide the student with the basics of employing Internet of Things technologies in smart cities to improve the quality of life in accordance with technologies. The Fourth Industrial Revolution, providing students with the skills to create digital solutions to problems in a number of fields, including the environmental, agricultural, and medical fields. The course also aims to promote the safe and responsible use of Internet of Things technologies (Ministry of Education, 2022, p. 23)

3.9. Digital Skills and Digital Technology Curriculum:

The series aims to provide the student with the basics of computer science and programming skills in different languages, while linking them to the student's reality and life. It also gives him creative digital production skills, promotes the optimal, safe

and responsible use of technology, and contributes positively to digital environments, in addition to keeping up with technology. The Fourth Industrial Revolution to suit the student's age (Ministry of Education, 2022, p. 54)

Figure 1: Digital Skills and Digital Technology Curriculum



Source: Features of Saudi Curriculum Development, Ministry of Education, Kingdom of Saudi Arabi (2022)

4.9.Critical Thinking Curriculum:

It targets the common first year of the Pathways system. The curriculum aims to provide the student with critical thinking skills and develop his skills in systematic and rational thinking based on solid logical and scientific foundations. Which enables him to be careful in issuing and suspending judgments until he verifies the matter himself through investigation and logical reasoning. The curriculum also aims to enable the student to express his perceptions, experiences, and relationships with others, and to subject them to the correct scientific rules of thinking, taking into account the determinants and controls of critical thinking and constructive expression, while adhering to the values of tolerance and respecting the right to difference. (Ministry of Education, 2022, p. 78)

Figure 1: Critical Thinking Curriculum

الفهرس	
الوحدة الأولى	
الدرس الأول: التفكير الناقد وحل المشكلات	
١٠ Critical Thinking and Problem Solving	
الدرس الثاني: التفكير الناقد واتخاذ القرار	
٢٤ Critical Thinking and Decision Making	
الدرس الثالث: التفكير الناقد بين العمل الفردي والعمل الجماعي	
٤٢ Critical Thinking: Individual and Teamwork	
الدرس الرابع: التفكير الناقد والحوار	
٥٠ Critical Thinking and Dialogue	
الدرس الخامس: التفكير الناقد والحجاج	
٦٢ Critical Thinking and Argumentation	
الدرس السادس: التفكير الناقد والمناقشة	
٧٢ Critical Thinking and Debate	
الدرس السابع: التفكير الناقد والتفكير الإبداعي	
٨٤ Critical Thinking and Creative Thinking	
الدرس الثامن: التفكير الناقد والتفكير العلمي	
٩٨ Critical Thinking and Scientific Thinking	
الدرس التاسع: التفكير الناقد والفكر الضال	
١٠٨ Critical Thinking and Extremism	
الوحدة الثانية	
الدرس الأول: وجاهة الشواهد	
١٥٠ Validity of Evidence	
الدرس الثاني: الوعي بالمغالطات المنطقية الصورية	
١٦٢ Recognizing Formal Logic Fallacies	
الدرس الثالث: الوعي بالمغالطات المنطقية غير الصورية	
١٧٤ Recognizing Informal Logic Fallacies	
الدرس الرابع: التفكير المنطقي والمنهج الرياضي	
١٩٠ Logical Thinking and Mathematical Reasoning	
الدرس الخامس: التفكير المنطقي والمنهج التجريبي	
١٩٨ Logical Thinking and Empiricism	
الدرس السادس: التفكير المنطقي والذكاء الاصطناعي	
٢١٠ Logical Thinking and Artificial Intelligence	
الدرس السابع: التفكير المنطقي والحقيقة العلمية	
٢٢٢ Logical Thinking and Scientific Truths	

Source: Features of Saudi Curriculum Development, Ministry of Education, Kingdom of Saudi Arabi (2022)

10. Conclusion:

Education represents the most important axis in the vision of the Kingdom of Saudi Arabia 2030 to advance the nation and the citizen by continuing to invest in education and training, and providing students with the knowledge and skills necessary for future jobs. Accordingly, adopting the Pathways Project at the secondary level seeks to achieve many strategic goals, and this has been concluded. Search for the following results:

- Secondary education based on the Pathways system is a diverse and distinguished secondary education, prepared for life and globally competitive
- Providing valuable secondary education that achieves comprehensive quality, global competition, and preparation for life and the labor market according to

future skills through an efficient teacher, influential leadership, an advanced curriculum, and an attractive environment.

- Ensuring specific, specialized paths that qualify the graduates of this stage to complete university education and enter the labor market.
- Relying on learning theories that focus on the student's active role in his learning process according to constructivist and social constructivist theory.
- The implementation of the secondary school pathways system and its success in achieving its goals depend largely on cooperation between the parties concerned with its implementation within the educational system, and on the effectiveness of community partnership.

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