

# The Impact of Educational Leaders on Enhancing Innovation in Educational Institutions Considering Global Challenges

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## Abstract

The study aimed to identify the impact of educational leaders in promoting innovation in educational institutions, by following the descriptive and analytical approach. The study was applied to a random, intentional sample of (100) administrative leaders in schools in the Sultanate of Oman. The study relied on the questionnaire as a tool for collecting data, and the results of the study explained. The reality of planning by educational leaders in promoting innovation in educational institutions in the Sultanate of Oman came in at a moderate degree, while the reality of the school environment and the reality of discovering school talents by educational leaders in promoting innovation in educational institutions in the Sultanate of Oman came in at a high degree. As for the requirements necessary to develop the performance of leaders in promoting innovation, the cognitive, organizational, material and financial requirements were high, while the obstacles facing in promoting innovation in educational institutions in the Sultanate of Oman were moderate, as the weak culture of innovation among some teachers came in first place, while weak communication between educational leaders came in the first place. Seniors and school leaders are in last place.

**Keywords:** Educational Leaders, Innovation and Creativity, Educational Institutions, Sultanate of Oman

## Introduction

The era we live in today has witnessed several changes and many knowledge accumulations, in addition to the spread of means of communication and ease of obtaining information. It has become clear that the entire world is moving towards future administrations with different orientations with new organizational and administrative features, which give the

application of the concept of innovation and creativity management high attention and great focus instead of traditional methods and usual methods.

At the same time, school leadership is no longer limited to routine work but rather combines administrative aspects with technical aspects in relation to students, teachers, administrators, curricula, educational activities, technical supervision, and linking the school to the local and creative community. Innovation in our current era has shaped the competitiveness between many individuals and workers in institutions and organizations with different names and orientations, setting a main goal behind this, which is to improve the performance of its members and develop them towards excellence and creativity. Innovation played an effective role in distinguishing and classifying many cadres on various criteria, including those based on competence, giving, innovation and creativity (Aoun, 2019, p. 1028). The Basic Law of the State, issued by Royal Decree No. (6/2021), also established important rules related to scientific research and innovation, which were included within the cultural principles in Article (16), as it stipulated that (education is a right for every citizen, its goal is to build the Omani character, preserve the national identity, consolidate the scientific method in thinking, develop talents, encourage innovation, consolidate cultural and spiritual values, and establish the concepts of citizenship, tolerance, and harmony). It combined education and innovation, and the importance of... Rooting the values of citizenship and Omani culture in them, and in another text in the same article (the state guarantees the freedom of scientific research, works to encourage its institutions, sponsors researchers and innovators, and also guarantees ways for the private and civil sectors to contribute effectively to the renaissance of scientific research); His Majesty encourages interest in the fields of innovation and scientific research, and stresses the importance of supporting researchers and innovators by public, private and private institutions to advance the knowledge economy, benefit from national experiences and ideas, and enhance innovation and scientific research skills in various fields. (Al-Wahibiyah, 2023).

As there is a conviction in all developed countries that contemporary civilized life, modern industries, and highly advanced technological devices cannot survive, continue, advance, and compete without the continued presence of innovative people in increasing numbers in all scientific, economic, social, and political fields. This conviction led to the governments of these developed countries to sponsor scientific research that aims to discover and identify innovative talents among individuals, then measure, develop, and invest in them. Therefore, innovation and the dissemination of its culture were initially linked, especially within pre-university education organizations, which are represented by schools (Abbas, 2018, p. 437).

Within the framework of the responsibilities and skills of administrative educational leaders, and in light of the negative and positive changes and challenges that the contemporary world is experiencing, which include all areas of life, especially the field of education, the urgent need emerges for administrative educational leaders to be at the top of all educational institutions, as the management of the educational institution no longer aims to routinely manage the affairs of the educational institution according to specific rules and instructions, but rather has become an educational leadership that aims to provide all the conditions and capabilities that help achieve the goals, capable of innovation and development in educational methods. Educational and administrative (Al-Ayasrah, 2021).

This made the process of interest in innovation in pre-university education organizations look at the school, as the main educational organization in the primary, preparatory and secondary stages of pre-university education, as the primary organization for supporting and developing innovation at this educational stage. The need to support and develop innovation was seen as deriving from the responsibility of schools to promote the full development of all positive aspects, and this falls on the responsibility of educational leaders in providing the opportunity for innovation, so this study comes to determine the impact of educational leaders in promoting innovation in educational institutions.

### **Problem Statement**

The management of educational institutions constitutes one of the most important human activities in societies, regardless of their orientations and status among countries, and an important reference in their direct impact on the lives of individuals and peoples socially, economically, and politically. Education in the Sultanate of Oman has received great attention and this interest has continued, but despite this we find many obstacles that hinder the progress of the educational process and its promotion of innovation in the desired manner. A study (Aoun, 2019) indicated that education is subjected to great criticism as it is still below the level of ambitions to keep pace with the aspirations and efforts made by the state, as many scientific studies and official reports have revealed the shortcomings that this sector suffers from and highlighted many of the obstacles that prevent achieving the desired quality. There is also a gap between its desired declared goals and its actual field reality, especially at the executive procedural level.

The study (Gebrini, 2016) also confirmed that educational institutions suffer from the absence of creative levels among female educational leaders, as well as a deficiency in strategic planning among school leaders, and among the aspects and manifestations of criticism and shortcomings about the reality of our education is the forms of violence to which students are exposed. The study (Harzallah, 2015) confirmed the need to pay attention to training programs for school leaders in the field of innovative leadership and its means and provide the necessary material and moral support to encourage it, and explain its importance and application in educational administrative work.

The study (Al-Harbi, 2023) also recommended action To design training programs concerned with developing digital leadership practices and methods and their various applications in the educational environment among school leaders, and to create a digital unit in education departments based on surveying and examining the digital leadership of principals in schools, improving deficiencies or weaknesses, if any, and intensifying training programs for male and female teachers in a way that contributes to developing and enhancing innovative work behaviors. The study also suggested conducting studies that investigate the relationship between other leadership styles and innovative work behavior.

### *Study Questions*

Based on the above, the problem of the study is represented in the following main question:  
**What is the impact of educational leaders in promoting innovation in educational institutions considering international experiences?**

### *Study Questions*

1. What is the reality of the impact of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman?
2. What are the requirements for developing the performance of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman?
3. What are the obstacles facing educational leaders in promoting innovation in educational institutions in the Sultanate of Oman?

### *Study Objectives*

This study aims to identify the impact of educational leaders in promoting innovation in educational institutions considering international experiences, through:

1. Determine the reality of the impact of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman.
2. Identifying the requirements for developing the performance of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman considering international experiences.
3. Identifying the obstacles facing educational leaders in promoting innovation in educational institutions in the Sultanate of Oman.

### **The Importance of the Study**

The study has practical and theoretical importance as follows:

#### *Theoretical Importance*

- I. This study contributes to increasing scientific knowledge about analyzing the impact of educational leaders in promoting innovation.
- II. The importance of research in stimulating the development of innovative processes in planning and implementation in the Ministry of Education.
- III. The importance of the cognitive and scientific enrichment that the current study adds to the Arab and educational library, especially given that it is a field study that investigates problems and develops solutions to them in a way that has more scientific and practical value that serves the educational field.
- IV. The study comes to keep pace with the studies and all efforts made to develop the performance of education leaders in the Sultanate of Oman.

#### *Practical Importance*

- I. The research contributes to improving the performance of educational leaders in the Sultanate of Oman with the aim of enhancing innovation in all educational activities and outcomes.
- II. Improving the quality of educational programs provided to students and teachers that emphasize innovation in the educational process.
- III. This study sheds light on the quality standards of effective government school leadership to support innovation and activities that stimulate giving and creativity.
- IV. The results of this research benefit a large number of those interested in innovation and creativity in the educational process in the Sultanate of Oman.
- V. This research can be used as a means of comparing administrative policies and programs used to promote innovation in educational institutions considering international experiences.

*Study Limitations*

- **Objective limits** the study was limited to identifying the impact of educational leaders in promoting innovation in educational institutions considering international experiences.
- **Spatial boundaries:** The study was limited to government school leaders at all educational levels (primary - middle - secondary) (school principals and school leadership supervisors in the Sultanate of Oman).
- **Temporal limits:** The study will be implemented during the second semester of the year 2024 AD.

*Study Terms*

- *Educational Leadership*

They are defined as school leaders who are entrusted with leading the school educationally and educationally, to achieve the desired goals (Aoun, 2019).

It can be defined procedurally as all educational persons who assume direct leadership over employees of educational institutions and include school leaders, deputies, supervisors, and teachers.

- *Innovation*

Innovation is defined as taking on the dimensions of sustainable development, which is considered a learner-centered approach and an innovative method to enable individuals, especially students, to take responsibility and find innovative solutions to real-life problems. Thus, students understand innovation as one of the knowledge generation activities and help to find ideal solutions to the problems they face during the educational stage (Aoun, 2019). It can also be defined procedurally as every human activity that leads to an innovative product that serves the educational process in all its aspects and is promoted by educational leaders in order to achieve the goals of educational institutions.

- *Innovative Leadership*

It is defined as those concerned with generating knowledge, information, and new ideas, and providing the appropriate environment for them, to test them, evaluate them, work to disseminate them, and market them (Spahr, 2015).

It can also be defined procedurally as leadership that adopts innovative methods in acquiring and discovering science and knowledge, applying it, and then disseminating it in the local community and among senior leaders in education.

**Theoretical Framework***The Concept of Educational Leadership*

Leadership is known to be a science and an art, just like administration. There is no doubt that the success of drawing up plans, making administrative policies, and putting them into practice cannot happen except under the guidance and oversight of wise administrative leaders. Successful leadership is a necessary foundation for any organization, starting with the family and ending with the state. Educational leadership is considered one of the most important phenomena of social interaction, because leaders play a major role in it as they

influence the direction of the group's activity, the extent of its production, and the prevailing spirit among its members (Aoun, 2019).

It is also known as a group of executive and technical leadership processes that are carried out through collaborative teamwork that constantly seeks to provide the appropriate intellectual, psychological and material climate that stimulates motivation and instills the desire for active and organized individual and collective work in order to overcome difficulties, adapt existing problems and achieve the educational goals set for the community for educational institutions (Al-Sulai', 2020, p. 145).

As defined by (Al-Ayasrah, 2021) it is the joint work carried out by the university with the aim of reaching the specific goals of the educational institution in an atmosphere dominated by affection, brotherhood, and harmony.

*Requirements for Developing the Performance of Leaders of Educational Institutions to Enhance Innovation*

The need to increase the effectiveness of educational systems represents one of the most important drivers and incentives for continued development in the educational system, and to achieve this, some requirements must be present that contribute to creating that desired development, and among those requirements are the following (Aoun, 2019, p. 1037):

- Availability of change management and determination to develop.
- Availability of human capabilities capable of transferring ideas and proposals into implementation.
- Availability of the material capabilities that enable the desired development to be achieved.
- Availability of sufficient time to conduct multiple and qualitative studies and development processes.
- Enhancing teachers' participation in planning and implementation of development processes.
- Availability of quantitative and qualitative data and information necessary to make development decisions.
- Continuity of the development process.
- Reducing the centralization of administration and giving the school leader the freedom to act within the boundaries of his school in a way that achieves its interest.
- Emphasizing the feeling of security and reassurance and the dimensions of the specter of fear regarding the results of innovation and renewal.
- Providing stability in the job for the school leader so that he can draw long-term plans for reforming his school and ensure that he reaps its results himself.
- Protecting intellectual and scientific freedom and personal freedom is the responsibility of the school.
- Applying the democratic method in educational administration.



Also, the primary goal of every successful leader is to master the knowledge, competencies, and strategies necessary to bring about positive change and apply it successfully in his educational institution, so there is a set of requirements necessary for the educational leader to enhance the innovation process, which is represented in a set of practices represented in the following (Abdel Razek, 2020).

- Adopting change and being convinced of its importance: This is done through:
  - Sensing the need for change by following the latest developments in the educational field, especially in the field of leadership.
  - He is keen to convince school personnel of the change and its importance, and works to spread this culture through meetings, visits, and the results of the educational administration evaluation.
- Creating the appropriate environment for change: This is represented by:
  - Develops effective strategies to bring about the change process, implement it, and follow up on its implementation.
  - It works to provide the change process with the material, human and technical resources it needs to achieve the desired goals.
  - Provides positive support to all members of the organization and avoids letting them down.
  - The principle of justice is adopted in dealing with all individuals.
- Stimulating creativity and innovation:  
This is represented by:
  - He respects the creative initiatives of his employees and works to encourage them through material and moral stimulation.
  - He seeks to develop the capabilities of his employees to keep pace with the requirements of the modern era as a continuous process.
  - Preserves workers' moral and material rights.
- Encouraging development and initiatives: This includes:
  - Adopts development programs and supports them morally and financially.
  - Highlights the creative initiatives of his employees, creating a stimulating environment.
  - It enhances the motivation to improve the capabilities and performance of his employees to face successive developments.

*Methods and Techniques for Identifying Creative Thinking Capabilities among Leaders of Educational Institutions to Enhance Innovation*

Creative thinking represents one of the psychological phenomena that has not been precisely defined because of the differences between specialists and psychological schools and the nature of innovation, as the methods that can help in defining and clarifying this phenomenon

and its various components are numerous and varied. Perhaps the most important methods that can be relied upon in determining the creative thinking capabilities of leaders of educational institutions to promote innovation are the following (Aoun, 2019):

- Intelligence tests: They are one of the most widely used mental measurement tools, and one of the most reliable indicators of mental function, as many studies have addressed the relationship between innovative thinking and intelligence.
- Personality tests: These are tests to detect, measure, and evaluate personality traits in individuals. Using lists of personality traits, a distinction is made between innovators and non-innovators because innovators have specific traits that distinguish them from others.
- Academic achievement: Those with innovative abilities are identified through the level of academic achievement, assuming that there is a direct relationship between innovative thinking abilities and the learner's academic achievement.
- Biography: The individual's biography is identified by tracking and knowing the historical aspect of the individual and what is related to childhood, trends, values, educational experiences, level of ambition, interaction, and home environment.
- Creative thinking tests: These tests measure what is called divergent thinking or productive thinking, and the creative thinking test questions require fluency and flexibility in thinking.

#### *Indicators of Innovation in the Educational Environment Globally*

Innovation plays an important role as a driver of development, and to possess this ability requires the availability of innovation indicators that go beyond traditional measures of inputs, such as the level of funding for research and development. This requires the availability of indicators to support the policy-making process, especially educational and administrative ones, as it is a continuous process. The Global Innovation Index (GII) is one of the composite indicators, as it was jointly developed by Cornell University, the European Institute of Business Administration, and the World Intellectual Property Organization (WIPO), and it includes about 80 detailed indicators of the components of the innovation and creativity environment in terms of their inputs and outputs. It looks at global innovation indicators in terms of their relationship to per capita GDP (United Nations Development Conference, 2014).

Perhaps one of the most important clear indicators of innovation is the World Intellectual Property Organization's adoption of the Global Innovation Index, which witnessed its birth in 2007, so that it is launched annually every year to promote and harvest productions and innovations in educational environments in educational institutions. It also indicates that it is an indicator aimed at identifying multi-dimensional aspects of innovation and providing tools that can help in designing policies aimed at promoting long-term growth in production, improving productivity, and increasing job opportunities. The Global Innovation Index helps to find and create an innovative environment in the first place through which factors are evaluated. Innovating constantly, it also provides a basic tool and a database that contains detailed metrics for 130 economies using dozens of metrics to measure the innovative activity of each country's products during the same year. (Corn University, 2017)

The study (Kahil, 2015) pointed to the efforts of the United States of America in leadership reform towards innovation by restructuring schools at the international level. Today, they are



multiplying considering a group of local and global challenges. These reform efforts have resulted in many administrative trends and strategies, the most important of which is the trend towards school self-management, which is a new form of development and creativity for school leadership.

Australia also played an important role in the process of developing the performance of school leaders by adopting the same American principle in the educational application of decentralized management and changing the structure of control over schools, teachers and principals, which was reflected properly in the development and internal and external performance of the school and its cadres and creative scientific products of high quality with inventions and innovations and the development of pedagogical competencies and capabilities with educational directions, control and follow-up of modern administrative and leadership roles that are in line with the developments of the times (Kahil, 2015, (210).

The results of the Sultanate of Oman in the Global Innovation Index for the year 2022 translated this trend, as it ranked first in the world in the index of science and engineering outcomes out of the total number of graduates, and third in the world in the index of government spending per student. The Sultanate of Oman also advanced 5 places in innovation inputs, and advanced 3 places in innovation outputs, and its ranking in the index was 79 globally out of 132 countries, said Dr. Sharifa bint Hamoud Al Harthiya, expert in major program support and quality assurance. With the Oman 2040 Vision Implementation Follow-up Unit, the Sultanate of Oman is moving towards establishing an integrated and effective national system for science and technology and achieving sustainable development to achieve and enhance sustainable social and economic well-being, not only for the current stage: But to ensure the future of future generations (Ministry of Information of the Sultanate of Oman, 2024).

As for the Sultanate's position globally in innovation indicators; The Sultanate advanced (8) ranks in the Global Innovation Index for the year 2021, becoming ranked (76) globally. The index showed that the Sultanate advanced (19) ranks in innovation outputs and one (1) rank in its inputs. This rise is attributed to the integration of roles between the actors in the national innovation system, which contributed to the progress of the Sultanate's performance in this index (Al-Wahibiyyah, 2023). Oman Vision 2040 The priority of education, scientific research and innovation to advance national capabilities is important by focusing on providing diverse and sustainable sources of funding that enhance and strengthen the bonds of true partnership between academic and research institutions and private sector institutions. The stimulating educational system, vocational training system, and innovation support are the basics that government agencies have launched in the field of education, learning, innovation and scientific research in cooperation with public and private colleges and universities, in order to provide individuals with high skills in accordance with Oman Vision 2040 To help raise productivity levels and improve the efficiency of the economy. During this year, and as part of efforts to enhance education, teaching, scientific research and national capabilities, the Ministry of Higher Education, Scientific Research and Innovation launched the Strategic Research Projects Programme, which is a research program to address national priority research challenges in government institutions, so that the outputs and results of the research projects program contribute to building a strong economy based on knowledge and scientific evidence, with the aim of enhancing cooperation between various

government agencies, for the benefit of the public. Strategic directions (Futures of the Nation, 2022).

### **Literature Review**

The study (Aoun, 2019) aimed to identify the performance of leaders in government schools in the northern border region (Arar) to improve the educational environment that stimulates innovation considering Vision 2030. The researcher used the descriptive survey method and relied on the questionnaire as a tool for collecting data. The study was applied to a sample of (120) leaders, supervisors, and schoolteachers. The results revealed that the performance of female government school leaders for educational staff in the northern border region, Arar, to improve the environment educational environment stimulating innovation considering Vision 2030 to a moderate degree. The results also showed that the requirements for developing the performance of female government school leaders for educational staff in the northern border region of Arar are to improve the educational environment stimulating innovation considering Vision 2030 to a moderate degree. The study recommends the necessity of the Ministry of Education adopting programs to develop the performance of female government school leaders to improve the educational environment stimulating innovation considering Vision 2030.

The study (Al-Otaibi, 2019) aimed to identify the targeted performance of school leaders, and the reality of the performance of government school leaders in Dawadmi Governorate to improve the educational environment conducive to innovation considering Vision 2030 AD. The researcher used the descriptive survey method and two data collection tools (a performance indicator card to measure innovative performance in government schools, and a questionnaire with a five-point scale). The study population may be of two categories: First: schools with outstanding performance in Dawadmi Governorate, which number (73) schools, and surveyed (20) schools, i.e. (27%). Second: The study included all leaders and deputies of government schools in Dawadmi Governorate, who numbered (595) leaders and deputies, and the sample amounted to (35%) of the members of the study population. The study reached a number of results, including: The reality of the performance of government school leaders to improve the educational environment stimulating innovation in light of Vision 2030 was weak in the three areas of the questionnaire (cognitive performance among students and teachers, organizational performance, performance Material and financial), the requirements for developing the performance of government school leaders to improve the educational environment conducive to innovation in light of Vision 2030 AD were high in the three areas of the questionnaire (cognitive performance among students and teachers, organizational performance, and material and financial performance). There were no differences in the areas of the reality of performance of school leaders to improve the educational environment conducive to innovation considering Vision 2030 AD, due to the variable of gender, job title and number of years of experience, but there were statistically significant differences due to the variable of the educational stage in favor of school leaders. Intermediate and academic qualifications for those holding a higher diploma.

The study (Mabrouk, 2022) aimed to identify the theoretical and intellectual foundations of ethical leadership in educational institutions, to know the nature of administrative practices within public secondary schools in Egypt, and the research relied in its procedures on the descriptive approach, which expresses a set of procedures that are integrated to describe the

phenomenon or topic based on collecting, classifying, processing, and analyzing facts and data in a sufficient and accurate manner to extract their significance in order to arrive at a questionnaire of results and generalizations about the phenomenon or topic under study. The researcher designed a questionnaire to measure the opinions of the research sample, and a random sample of (185) was chosen. One out of a total of (300) individuals representing the administration of public secondary schools in Minya Governorate. The research reached some results, the most important of which are: The principal's ability to change within schools is achieved to a moderate degree, and the principal's ability to solve problems is achieved within schools to a moderate degree.

The study (Al-Harbi, 2023) aimed to Identify the degree to which middle school leaders in Jeddah practice the digital leadership style from the point of view of teachers; To achieve the objectives of the study, the researchers used the quantitative method (survey and correlational). To collect data, the researchers used the digital leadership scale prepared by Al-Raqab (2021) and based on the standards of the International Society for Technology in Education (ISTE, 2018). The researchers also adopted the Janssen scale (2000) to measure innovative work behavior. The study population consisted of male and female middle school teachers in the city of Jeddah, numbering (8588), and a sample was chosen. The study was conducted using an appropriate random sampling method (opportunity sample), which numbered 371 individuals, representing 4.3% of the study population. The study concluded that school leaders tend to practice digital leadership to a high degree, and all dimensions of digital leadership (building digital culture, a visionary planner, a possible leader, a system developer, and professional development for teachers) came with a high degree of practice among school leaders. The study also found that innovative work behavior is available to teachers to a high degree from their point of view. It was found that there is a direct correlation. (High value and statistically significant at the significance level) 0.01) between school leaders' practice of digital leadership style and teachers' innovative work behavior.

The study (Al-Ghamdi, 2023) also aimed to reveal the obstacles to developing the roles of male and female principals in public education schools in the Kingdom of Saudi Arabia in light of the twenty-first century skills, and the descriptive analytical approach was used. The study population consisted of all general education school principals in the selected education departments under study, who numbered (3723), as well as male and female teachers in the selected regions, who numbered (74,635). A representative random sample was selected from the study population, which consisted of all male and female principals. General education schools in the selected education departments under study in the academic year 1444 AH, amounting to (886) individuals. The questionnaire was used as the main tool for collecting data for the study. Among the most prominent results of the study is that the degree of obstacles that limit the development of the roles of male and female principals in general education schools in the Kingdom of Saudi Arabia in light of the twenty-first century skills from the point of view of the study sample, was high with an arithmetic mean of (3.48) and a standard deviation of (0.67), which is a value less than the correct one, which means homogeneity of individuals. The sample of the study in their estimation of the degree of difficulties that limit the development of the roles of male and female principals of public education schools in the Kingdom of Saudi Arabia considering the skills of the twenty-first century.

The study (Judd, 2017) aimed to identify the role of leaders within independent schools in promoting and supporting cultures of innovation in their schools, by identifying leadership strategies, structures, and the use of resources that support innovation in schools, as presented by independent school presidents, administrators, and faculty members, based on a multiple case study in three independent high schools in New England. The study included interviews with school presidents, focus groups with administrators and faculty, and document review to triangulate data. The study revealed that charter school presidents are educational leaders who strategically develop people, programs, and school cultures that support continuous growth and change. Charter school presidents encourage innovation through collaborative long-term planning and provide autonomy, time, and support for new ideas. These findings can help aspiring and current school leaders understand how to foster and support innovation in schools.

The study (Severino, 2024) aimed to address the role of secondary school teachers in fields other than science, technology, engineering, and mathematics by developing integrated ISTEM teaching methods for traditional classroom lessons in a space dedicated to high technology, relying on the descriptive analytical approach. The study followed the personal interview as a tool for collecting data, and the results of the study revealed that ISTEM education

Makerspace provides great and positive facilities for teachers, including curriculum renewal, an incentive to take risks, and a clearer vision for teaching.

However, teachers also report that to overcome barriers to ISTEM makerspace, they need support that addresses issues of time management and daily scheduling, meaningful professional development, and clear ISTEM lesson models that work within their classroom structures. This research will provide insight into some practical pedagogical approaches that teachers can follow when delivering teaching in the classroom.

The study (Kessler, 2024) pointed out the clarification of the role of schools in promoting innovation to prepare students as laboratories for innovative curricula and teaching reform to better prepare students, relying on the descriptive approach. Data was collected from interviews, classroom observations, documents, and artifacts. The study used theoretical frameworks of innovation ecosystem and inquiry-based innovation to analyze the data, and the findings reflected interconnected themes such as collaboration and competition; Agency, autonomy, (structure); disruption and opportunity; boldness and courage. Furthermore, the design, development and implementation processes are aligned with the five principles of inquiry-based innovation: purposeful and intentional; attending to multiple perspectives; adapting to context; sustainable and iterative; structured and supported. Although the findings were specific to the case study school and its program of study, the findings are likely to provide insights into how other international schools design, develop and implement innovative curriculum programs aimed at promoting future-ready skills.

The study (Brown, 2024) also aimed to address the role and impact of transformational leadership in directing educational reform efforts within educational districts in Ohio. Using a qualitative descriptive study, I focused on the experiences and strategies of long-time school district leaders. Participants included a diverse group of school leaders who were instrumental in implementing reform initiatives. Through in-depth interviews and thematic

analysis, the study revealed how these leaders describe and implement mandated reform efforts, highlighting the challenges and successes encountered. The findings reveal key strategies for effective change management, emphasizing the importance of visionary leadership and community engagement. The conclusions drawn from this research provide valuable insights for policy makers, educators, and future leaders in education reform.

#### *Comment on Previous Studies*

These studies provided different results regarding aspects of leadership in educational institutions, as evidenced by the results

Previous studies indicate that there is an increasing trend of interest in promoting creativity and innovation in all educational institutions, and therefore all of these studies help this study in how to analyze and evaluate the impact of educational leaders in promoting innovation in educational institutions.

#### **Study Methodology**

The current study used the descriptive analytical method, which is the closest and most appropriate approach to the nature of the study, as it collects information and data about the phenomenon under research, and then analyzes, studies, and describes it to reach the results of the study.

#### *Study Population*

The study sought to involve all parties concerned with the subject of the study, and to represent them adequately and correctly in accordance with a scientific method for selecting and sampling the study population, as the study population is represented by all leaders in educational institutions in the Sultanate of Oman.

#### *Study Sample*

A purposive random sample of educational leaders was selected from school principals and school leadership supervisors, numbering (100) in schools in the Sultanate of Oman, and is shown in the following table.

Table (1)

*Distribution of study sample members according to demographic variables*

Percentage%	number	Variable class	variable
%65	65	male	Sex
% 35	35	feminine	
% 75	75	Bachelor's	Academic qualification
% 18	18	Master's	
% 7	7	Ph.D.	Years of experience
% 15	15	10 years and less	
% 45	45	More than 10 years - 15 years	
% 30	30	More than 15 years - 20 years	
%10	10	More than 20 years	the total
%100	100		

*Study Tool*

The current study relied on the questionnaire as a data collection tool, as it is the most widely used method in descriptive studies. This is based on the theoretical framework and previous studies related to the subject of the study, to achieve its objectives. The researcher designed the study tool (the questionnaire), and it included three axes:

The first axis: The reality of the impact of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman.

The second axis: Requirements for developing the performance of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman considering international experiences.

The third axis: Obstacles facing educational leaders in promoting innovation in educational institutions in the Sultanate of Oman.

The questionnaire items and phrases are based on five answer levels according to a five-point Likert scale.

The Likert scale was processed and the degree of agreement and the extent of agreement on the scale were calculated, as shown in the table below.

Table (2)

*Degree of Approval and Extent of Approval*

Range	Coding	level
From 1 to 1.80	1	Very low
1.81 to 2.60	2	low
2.61 to 3.40	3	average
3.41 to 4.20	4	high
4.21 to 5	5	Too high

*Stability of the Study Tool*

The reliability coefficient of the study instrument is calculated using the Cronbach's alpha coefficient for each axis of the scale using the SPSS statistical packages after applying it to the survey sample, as shown in the following table:

Table (3)

*Calculating the stability coefficient for the resolution axes*

Stability coefficient	Axis
0.762	The reality of the impact of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman.
0.821	Requirements for developing the performance of educational leaders in promoting innovation in educational institutions
	In the Sultanate of Oman considering international challenges.
0.824	Obstacles facing educational leaders in promoting innovation in educational institutions in the Sultanate of Oman.
0.802	Overall stability



It is clear from Table No. (3) that the scale's axes are characterized by a statistically significant degree of reliability, and the reliability coefficients ranged between (0.762-0.824), and therefore the questionnaire can be generalized to the main study sample.

### Validity and Reliability of the Study

- *Apparent Honesty (Honesty of Arbitrators)*

The scale is presented to a group of arbitrators from professors in the same specialty for study, and then modifications are made according to their suggestions, so that the number of items in the questionnaire becomes 35 phrases in its final form. The agreement of the arbitrators is a statement of the validity of the content of the questionnaire. The following table shows the axes of the questionnaire in its final form and the number of items in each axis.

Table No.(4)

*Questionnaire axes in its final form*

Number of phrases	Axis
15	The reality of the impact of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman.
15	Requirements for developing the performance of educational leaders in promoting innovation in educational institutions
	In the Sultanate of Oman in light of international experiences.
5	Obstacles facing educational leaders in promoting innovation in educational institutions in the Sultanate of Oman.
35	Total

### *Internal Consistency Validity*

In order to ensure the validity of the internal consistency of the scale by calculating the correlation coefficients between each axis and the total score of the questionnaire obtained from the exploratory study, the scale is applied to a sample consisting of (20) educational leaders in schools in the Sultanate of Oman, using the statistical package SPSS and the statistical Cronbach's alpha coefficient to calculate the results as they are in the following table:

Table No. (5)

*Calculating internal consistency validity using the statistical correlation coefficient of the questionnaire*

The third axis		The second axis		The first axis	
Correlation coefficient	phrase	Correlation coefficient	phrase	Correlation coefficient	phrase
.649**	1	.850**	1	.461*	1
.711**	2	.728**	2	.435*	2
.850**	3	.848**	3	.575**	3
.728**	4	.649**	4	.871**	4
.468*	5	.711**	5	.821**	5

*Statistical Methods for Research*

The statistical data used in the study that will be collected will be entered using questionnaires and processed through the statistical program (SPSS). **And that** By extracting the following:

- Descriptive Statistics Measures, which rely on the use of percentages, frequencies, arithmetic means, and standard deviations, in order to describe the characteristics of the study sample and arrange its variables according to their relative importance.
- Reliability analysis to ensure the validity of the measurement tool based on extracting the value of Cronbach's alpha coefficient.
- Correlations: Correlations, by relying on Pearson correlation coefficients to measure the relationship between the independent and dependent study variables.

**Discussion of the Study Results**

**Answer to the first question: What is the reality of the impact of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman?**

*The first dimension: Skipping i*

To calculate the response of the study sample regarding planning to identify the impact of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman, which can be explained as follows.

Table (6)

*Arithmetic means and standard deviations for the response of the study sample items*

Degree of approval	Rank	deviation Standard	Average Arithmetic	Phrases
Medium	5	1.02	3.02	1. My school plan works to develop students' innovative abilities
Medium	1	1.21	3.28	2. I help teachers develop remedial plans to improve students' thinking and learning processes
Medium	2	1.35	3.26	3. I provide teachers with thinking processes that move the student from simple to advanced processes
Medium	3	1.19	3.15	4. I help teachers choose activities that contribute to developing the innovative side
Medium	4	1.12	3.11	5. I work to contribute to adapting the curriculum to fit the school's plan to develop innovation
Medium		1.17	3.16	The sum of the mean and standard deviation of the axis

The results showed that the reality of planning by educational leaders in promoting innovation in educational institutions in the Sultanate of Oman came in a moderate degree, as it came in arithmetic average of 3.16, and with regard to the axis items, the order of the items was as follows: first place) I help teachers develop remedial plans to improve students' thinking and learning processes (with an average of 82.3 and a moderate degree of approval, followed in second place) I provide teachers with thinking processes that move students from simple to advanced processes (with an average of 3.26, with a moderate degree), and third

place The phrase comes (I provide teachers with thinking processes that move students from simple to advanced processes) with an average of 3.15, with a moderate degree. As for the fourth phrase, it comes (I work to contribute to adapting the curriculum to fit it with the school's plan to develop innovation) with an average of 3.11, with a moderate degree. In last place comes the phrase. My school plan works to develop students' innovative abilities (average 3.02 with a moderate degree).

#### *The Second Dimension: The Field of School Environment*

To calculate the response of the study sample in the field of school environment to identify the impact of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman, which can be explained as follows.

Table (7)

*Arithmetic means and standard deviations for the response items of the study sample*

degree Approval	Rank	deviation Standard	Average Arithmetic	Phrases
High	3	1.36	3.48	6. I work to create an atmosphere of freedom and interaction between students, teachers, and school administration in the school environment
High	4	1.32	3.44	7. I support the teacher in providing methods and programs for students' thinking and problem solving
High	2	1.58	3.65	8. I strive to provide the necessary equipment for innovative students
High	1	1.66	3.70	9. I work to create all environmental conditions that support innovative activities
Medium	5	1.56	.338	10. I seek to prepare school facilities for innovative students
High		1.49	3.53	The sum of the mean and standard deviation of the axis

The results showed that the reality of the school environment by educational leaders in promoting innovation in educational institutions in the Sultanate of Oman came in at a high degree, as it came with an arithmetic average of 3.53, and with regard to the axis items, the order of the items was as follows: First place) I work to create all environmental conditions that support innovative activities (with an average of 3.70 and a high degree of approval, followed in second place) I strive to provide the necessary equipment needed for innovative students (with a high average of 365). In third place is the statement: I work to create an atmosphere of freedom and interaction between students, teachers, and the school administration in the school environment (with an average of 348, with a high degree. The fourth statement is) I support the teacher in providing methods and programs for thinking and solving problems for students (with an average of 344, with a high degree, and in last place comes the statement. I strive to prepare school facilities for innovative students (with an average 338. To a moderate degree.

*The Third Dimension: Discovering Student Talents*

To calculate the response of the study sample in the field of discovering student talents to identify the impact of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman, which can be explained as follows.

Table (8)

*Arithmetic means and standard deviations for the response items of the study sample*

degree Approval	Rank	deviation Standard	Average Arithmetic	Phrases
Medium	4	.125	3.36	11. I promote innovative students in order to motivate them to show their talents
High	1	1.59	3.66	12. I support student talent because I believe it is a prerequisite for developing the innovative side
High	2	1.32	3.41	13. I focus on diverse and innovative school activities that contribute to revealing student talents
Medium	4	1.25	3.36	14. Teaching methods pay attention to students' innovative participation in the educational process
Medium	3	1.28	3.39	15. I periodically monitor the student's record of achievement to help enhance and discover talents
High		1.33	3.43	The sum of the mean and standard deviation of the axis

The results showed that the reality of discovering school talents by educational leaders in promoting innovation in educational institutions in the Sultanate of Oman came in at a high degree, as it came with an arithmetic average of 3.43, and with regard to the axis items, the order of the items came as follows: First place (I support student talents because I believe it is a basic condition for developing the innovative side) with an average of 3.66 and a high degree of approval, followed in second place (I focus on diverse and innovative school activities that contribute to revealing student talents) with an average 3.41 with a high degree, while the third place comes to the statement (I periodically follow up on the student's record of achievement to help enhance and discover talents) with an average of 3.39 with a moderate degree. As for the fourth and final statement comes to the statement (I promote innovative students in order to motivate them to show their talents) and the statement (Teaching methods care about students' innovative participation in the educational process) with an average of 3.36 with a moderate degree.

**Answer to the second question: Requirements for developing the performance of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman considering international experiences? The first dimension: cognitive requirements:**

To calculate the response of the study sample to the cognitive requirements for developing the performance of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman, which can be explained as follows.

Table (9)

*Arithmetic means and standard deviations for the response items of the study sample*

degree Approval	Rank	deviation Standard	Average Arithmetic	Phrases
High	1	2.03	4.11	1. Intensifying enrichment programs that enhance innovation in the school
High	2	1.98	3.95	2. Encouraging co-curricular activities and classroom culture
High	3	1.72	3.88	3. Creating online learning networks according to an ethical framework
High	5	1.58	3.65	4. Promoting innovation through friction and direct competition locally and internationally
High	4	1.60	3.71	5. Encouraging openness between students and teachers to exchange new ideas
High		1.78	3.86	The sum of the mean and standard deviation of the axis

The results showed that the cognitive requirements for developing the performance of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman came in at a high level, with an arithmetic average of 386. With regard to the axis items, the order of the items was as follows: First place) Intensifying enrichment programs that enhance innovation in the school (with an average of 4.11 and a high degree of approval, followed in second place) Encouraging joint activities in the curricula and classroom culture (with an average of 395, with a high score, and third place is the phrase) Creating online learning networks according to an ethical framework (average of 388 with a high degree, while the fourth statement comes in) Encouraging openness between students and teachers to exchange new ideas (average of 3.71 with a high degree, while the last statement comes in) Promoting innovation through direct contact and competition locally and internationally (average of 365 with a high degree.

#### *The Second Dimension: Regulatory Requirements*

To calculate the response of the study sample to the organizational requirements for developing the performance of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman, which can be explained as follows.

Table (10)

*Arithmetic means and standard deviations for the response of the study sample items*

degree Approval	Rank	deviation Standard	Average Arithmetic	Phrases
Medium	4	1.25	3.36	6. Re-engineering administrative processes to match the school's orientation towards promoting innovation
Medium	5	1.23	3.31	7. Cooperating with academic and institutional bodies to improve the innovation system
Medium	3	1.27	3.38	8. Activating collective leadership based on participation in decision-making and making
High	2	1.32	3.45	9. Creating the climate to activate organized collective thinking to achieve the school's goals towards improving its innovation system
High	1	1.38	3.58	10. Adopting distributed leadership methods to enhance the innovation process
High		1.29	3.41	Total mean and standard deviation

The results showed that the organizational requirements for developing the performance of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman came in at a high degree, as they came with an arithmetic average of 3.41, and with regard to the axis items, the order of the items was as follows: first place) adopting distributed leadership methods to enhance the innovation process (with an average of 3.58 and a high degree of approval, followed in second place) creating the climate to activate organized collective thinking to achieve the school's goals towards improving its innovation system (with an average of 3.45 with a high degree), while third place The phrase (activating collective leadership based on participation in decision-making and making) comes with an average of 3.38 with a moderate degree, while the fourth phrase comes with an average of 3.31 with a moderate degree for re-engineering administrative processes to suit the school's direction towards enhancing innovation, while the last phrase (cooperating with academic and institutional bodies to improve the innovation system) comes with an average of 3.31 with a moderate degree.

#### *The Third Dimension: Material and Financial Requirements*

To calculate the response of the study sample to the material and financial requirements to develop the performance of educational leaders in promoting innovative educational institutions in the Sultanate of Oman, which can be explained as follows.



Table (11)

*Arithmetic means and standard deviations for the response of the study sample items*

degree Approval	Rank	deviation Standard	Average Arithmetic	Phrases
High	2	1.44	3.56	11. Employing information and communications technology within the school
High	1	1.60	3.71	12. Establish an incentive reward to support creative ideas
High	3	1.32	3.45	13. Providing partnership contracts with community organizations to support innovation materially and financially
High	4	1.31	3.41	14. Introducing new services to develop its innovative outputs
High	3	1.32	3.45	15. Attracting highly experienced human competencies to improve innovation
High		1.39	3.51	The sum of the mean and standard deviation of the axis

The results showed that the material and financial requirements for developing the performance of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman came in at a high degree, with an arithmetic average of 351. With regard to the axis items, the order of the items was as follows: First place) Establishing an incentive reward to support creative ideas (with an average of 371 and a high degree of approval, followed in second place) Employing information and communications technology within the school (with an average of 356 with a high degree, while third place is the phrase) Providing partnership contracts with organizations Community support for innovation materially and financially (and the phrase) attracting highly experienced human competencies to improve innovation (with an average of .345 with a high degree, while the fourth phrase comes) introducing new services to develop their innovative outputs (with an average of .341 with a high degree.

#### **Answer to the third question: Obstacles What do educational leaders face in promoting innovation in educational institutions in the Sultanate of Oman?**

To calculate the study sample's response to the obstacles facing educational leaders in promoting innovation in educational institutions in the Sultanate of Oman, which can be explained as follows.

Table (12)

*Arithmetic means and standard deviations for the response of the study sample items*

degree Approval	Rank	deviation Standard	Average Arithmetic	Phrases
1	High	.132	3.55	1. Weak culture of innovation among some teachers
4	Medium	1.13	3.32	2. Resistance of some teachers to programs to improve the quality of performance, teaching creativity and innovation
2	High	1.19	3.46	3. Inadequate professional development programs provided to teachers that contribute to promoting innovation
3	Medium	1.02	3.37	4. Weak trust between teachers and school leaders
5	Medium	1.01	3.25	5. Lack of communication between senior educational leaders and school leaders
Medium		1.13	3.39	Total

The results showed that the obstacles facing educational leaders in promoting innovation in educational institutions in the Sultanate of Oman came in a moderate degree, with an arithmetic average of 339. With regard to the axis items, the order of the items was as follows: first place) weak culture of innovation among some teachers (with an average of 355 and a high degree of approval, followed in second place) insufficient professional development programs provided to teachers that contribute to promoting innovation (with an average of 346 with a high degree, while third place is the phrase) Weak trust between teachers and school leaders (with an average of .337, with a moderate degree, while the fourth statement comes) Resistance of some teachers to programs to improve the quality of performance, teaching creativity, and innovation (with an average of .332 with a moderate degree, while the last statement comes) Lack of communication between senior educational leaders and school leaders (with an average of .325, with a moderate degree.

### Study Results

1. The reality of planning by educational leaders in promoting innovation in educational institutions in the Sultanate of Oman came in a moderate degree, as helping teachers to develop remedial plans to improve students' thinking and learning processes came in first place, while leaders' plans to develop students' innovative capabilities came in last place.
2. The reality of the school environment was ranked highly by educational leaders in promoting innovation in educational institutions in the Sultanate of Oman. The leaders' work to create all environmental conditions that support innovative activities came in first place, while their efforts to prepare school facilities for innovative students came in last place.
3. The results showed that the reality of discovering school talents by educational leaders in promoting innovation in educational institutions in the Sultanate of Oman was at a high level, as supporting student talents due to my belief that they are a basic condition for developing the innovative aspect came in first place, while the interest of teaching

methods in students' innovative participation in the educational process came in last place.

4. The knowledge requirements for developing the performance of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman came at a high level, as intensifying enrichment programs that enhance innovation in the school came in first place, while enhancing innovation through direct contact and competition locally and internationally came in last place.
5. The organizational requirements for developing the performance of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman ranked high, as adopting distributed leadership methods to enhance the innovation process came in first place, while cooperation with academic and institutional bodies to improve the innovation system came in last place.
6. The material and financial requirements for developing the performance of educational leaders in promoting innovation in educational institutions in the Sultanate of Oman were highly ranked, as setting an incentive reward to support creative ideas came in first place, while introducing new services to develop their innovative outputs came in last place.
7. The obstacles facing educational leaders in promoting innovation in educational institutions in the Sultanate of Oman ranked moderate, as the weak culture of innovation among some teachers ranked first, while weak communication between senior educational leaders and school leaders ranked last.

### **Study Recommendations**

The study recommends the following:

1. It is necessary to provide training programs for school leaders to support them and enhance the improvement of innovation in educational institutions.
2. Participation of teachers in the process of formulating standards that support innovation and creativity and discussing ways to activate them.
3. School leaders should strive to provide an appropriate learning environment that encourages creativity and innovation by providing material and financial resources.
4. Increase cooperation with various community institutions and the private sector and provide support to educational institutions to develop and support innovative students.
5. Intensifying the preparation of courses and workshops for school administrations and teachers, related to innovation and talent programs.
6. The necessity of urging educational institutions and their management to renew and develop their structures, systems and methods in a way that encourages innovation, research, experimentation and problem solving.
7. Urging and encouraging students to produce new creative ideas.

### **Study Suggestions**

- Conducting a study on the role of school leaders in achieving quality standards of teaching performance.
- Conducting a study on the role of school principals in developing students' innovation from the point of view of teachers and supervisors.
- Conducting a study on the relationship of innovation to the economic and social level of students in the Sultanate of Oman.

- Conducting a study on the role of educational leadership in improving learning outcomes according to the perceptions of educational supervisors.

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