Impact of experience and training on leadership skills in virtual teams in self-managed schools in East Jerusalem

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Abstract: This study investigates the impact of experience and leadership skills training in virtual teams in self-managed schools in East Jerusalem. A mixed quantitative and qualitative approach was used to collect and analyze data from a sample of virtual team leaders and members in these schools. The results showed that there is a statistically significant relationship between the level of experience and training received and the development of effective leadership skills in the virtual environment. The study showed that more experienced leaders and those with advanced training showed higher proficiency in managing virtual teams, compared to those with less experience or insufficient training. The results also indicated that continuous training plays a crucial role in improving the performance of leaders and their ability to meet the needs of virtual teams, which enhances the effectiveness of teamwork and the achievement of organizational goals. Based on these findings, the study recommends strengthening training and professional development programs for virtual team leaders to ensure the highest levels of performance and effectiveness.

Keywords: Virtual training, virtual team, leadership, self-managed schools, East Jerusalem.

Introduction: In light of recent developments and the pressures imposed by the Corona pandemic, it has become necessary to reconsider the skills and abilities required to work in virtual environments, especially in educational contexts such as self-managed schools in East Jerusalem. Experience and training play a pivotal role in enhancing leadership skills in such environments,

as leaders face new challenges related to ways of communicating, coordinating, and building trust among virtual team members.

According to recent studies, Daher (2021) noted the importance of technological cognitive tools in influencing the learning process, emphasizing the necessity of interaction and dynamism as key features of the tools used. Gaudecker et al. (2020) also noted that the coronavirus pandemic has forced communities to rethink many aspects of life, including ways of working and driving, highlighting the need for rapid adaptation to virtual work environments.

In this context, virtual leadership has become a critical factor in achieving the effective performance of virtual teams, as leaders have to use effective communication techniques and tools to ensure the achievement of common and desired goals. Research has confirmed that training leaders in technological and leadership skills is a basic necessity to ensure the quality of work outputs in virtual teams (Shmidt, 2014).

In light of these developments, this study seeks to examine the impact of experience and training on leadership skills in virtual teams in self-managed schools in East Jerusalem, by examining how to enhance performance and improve outcomes through the use of innovative training strategies, taking into account the effects of various factors such as gender and experience.

The Study's Problem

Virtual teams have become an integral part of the educational environment in self-managed schools, especially in areas such as East Jerusalem, where geographical and political conditions impose a complex reality that doubles the importance and necessity of these teams.

Previous studies, such as Hoch and Kozlowski (2014), have indicated that leadership in virtual teams requires new demands for motivation and inspiration, while other studies, such as those conducted by Mehtab et al. (2017), have shown that there are clear challenges in the virtual work environment, such as ambiguity in communication and members' lack of traditional guidance.

In this context, this study comes to identify the impact of experience and training on leadership skills in virtual teams within self-managed schools in East Jerusalem. The problem arises in how to develop and develop these leadership skills to meet the unique challenges posed by virtual environments, and to ensure the quality of educational outcomes under these circumstances. The study aims to develop a proposed model for development and improvement based on a comprehensive analysis of current leadership practices, and the challenges they face, with a focus on how effective training can be used to enhance leaders' abilities to manage virtual teams more efficiently and effectively.

Study Questions

Key Question 1:

What is the reality of practicing virtual teams in self-managed schools in East Jerusalem?

Question 2:

How aware are the virtual team leaders and members in the self-managed schools in East Jerusalem of the training needs related to virtual team leadership?

This main question is divided into the following sub-questions:

Question 1

Are there statistically significant differences at the level of significance ($\alpha \leq 0.05$) between the opinions of the respondents (school staff in East Jerusalem) about the awareness of the virtual team leader and members of the training needs, attributed to the age variable

Question 2:

Are there statistically significant differences at the level of significance ($\alpha \leq 0.05$) between the opinions of the respondents (school staff in East Jerusalem) about the awareness of the virtual team leader and members of the training needs, attributed to the variable of years of experience in participating in virtual teams?

Question 3:

Are there statistically significant differences at the level of significance ($\alpha \leq 0.05$) between the opinions of the respondents (school staff in East Jerusalem) about the awareness of the virtual team leader and members of the training needs, attributed to the variable of years of experience in leading virtual teams?

Sub-question 4:

Are there statistically significant differences at the level of significance ($\alpha \leq 0.05$) between the opinions of the respondents (school staff in East Jerusalem) about the awareness of the virtual team leader and members of the training needs, attributed to the score variable in the New Horizon system?

Sub-question 5:

Are there statistically significant differences at the level of significance ($\alpha \leq 0.05$) between the opinions of the respondents (school staff in East Jerusalem) about the awareness of the virtual team leader and members of the training needs, attributed to the variable that received training on virtual team leadership?

Sub-question 6:

Are there statistically significant differences at the level of significance (α ≤ 0.05)between the opinions of the respondents (school staff in East Jerusalem) about the awareness of the virtual team leader and members of the training needs, attributed to the gender variable?

Importance of the study:

Scientific importance:

• The study contributes to a deep understanding of the situation of virtual teams in self-managed schools in East Jerusalem, helping to fill the research gap in this area.

• By assessing the awareness of virtual team leaders and members of training needs, the literature on training in virtual learning environments can be improved.

• The study provides data on differences in awareness and training based on different variables, allowing the academic community to better understand the potential impacts of these variables on the effectiveness of virtual teams.

Practical Importance:

• Based on the results of the study, tailored training strategies can be developed to improve the performance of virtual teams and meet their needs.

• The study provides valuable information to help administrators and decision makers in self-managed schools make data-driven decisions about how to improve management and training in virtual teams.

• The results of the study can be used to develop educational and organizational policies that support the effectiveness of virtual teams and enhance their ability to achieve educational goals.

Study Objectives:

o Understand the current status of virtual team practices in self-managed schools in East Jerusalem.

o Measure the extent to which leaders and members are aware of training needs related to virtual team leadership.

o : Determine if there is an effect of the age variable on individuals' awareness of training needs.

o Study the impact of years of experience in participating in virtual teams on awareness of training needs.

o Measure the impact of years of experience in leading virtual teams on individuals' awareness of training needs.

o Assess the impact of the score in the New Horizon system on individuals' awareness of training

needs.

o Study the impact of receiving training on virtual team leadership on individuals' awareness of training needs.

o Determine if there is a difference in individuals' awareness of training needs based on gender.

Terminologies and Definitions

1. Leadership:

o Leadership is defined as the ability to influence a group of individuals towards common goals (Batah, 2016). In this study, leadership is procedurally defined as the ability possessed by the virtual team leader in the self-managed schools in East Jerusalem to guide team members towards achieving common educational goals, with an emphasis on the importance of experience and training in developing this ability.

2. Virtual Team:

o A virtual team is defined as a group of people who work together to complete a task or joint project without having to be in one place geographically (Mysirlaki & Paraskeva, 2020). The researcher defines the virtual team in this study as a group of teachers and administrators in self-managed schools in East Jerusalem, who communicate and work together through digital platforms to achieve specific educational goals.

3. Virtual Training:

o Virtual training is defined as online courses that aim to improve the skills of virtual team members (Henken, 2022). Procedurally, the researcher defines it as the training programs that leaders and members of virtual teams undergo in self-managed schools in East Jerusalem, with the aim of developing their leadership and technical skills.

4. Self-Managed Schools: Al-Ajmi (2019) states that self-managed schools refer to a type of educational administration that promotes autonomy and participation in decision-making by members of the school administration. Procedurally, self-managed schools are defined in this study as educational institutions in East Jerusalem that rely on decentralization of administration, where authorities are delegated to school principals and educational staff members to make decisions commensurate with the needs of the school, while studying the impact of gender on leadership within this environment.

Theoretical framework and literature review

In this section, we will review the theoretical literature and previous studies related to the topic of leadership in virtual teams and the impact of experience and training on leadership skills, especially in educational

contexts. We will address the concept of leadership, its characteristics, and styles, then move on to the concept of virtual teams, their characteristics, and the importance of virtual training in improving the performance of virtual teams. This review will help build a strong theoretical foundation for the current study.

1. Concept of Leadership

Leadership is a core concept in management, defined as the ability to influence a group of individuals to achieve common goals (Battah, 2016). Leadership involves several elements: leader, group, goals, and impact. Many researchers have pointed out that leadership is a key factor in improving the performance of institutions, especially in educational systems (Al-Adwan, 2021).

The educational leader is pivotal in guiding and motivating teachers towards achieving teaching and learning goals through the use of effective teaching strategies and the development of a sustainable learning environment (Al-Ajmi, 2019). The importance of leadership is not limited to achieving educational goals, but extends to developing innovation and change, building positive relationships, and promoting motivation and effective communication (Taresh, 2020).

2. Leadership Theories

The literature has provided many theories for understanding leadership. Among these theories, we find the "great man" theory, which asserts that a leader is born with innate qualities that make him an effective leader (Batah, 2016). Behavioral theories, on the other hand, focus on the behaviors and actions that leaders do rather than personal traits, such as proactive leadership and prescriptive leadership.

Situational theories advance the hypothesis that the effectiveness of leadership depends on the interaction of various factors such as the type of leader, the characteristics of individuals, and the nature of the situation (Fiedler, 1978). As for the transformational theory, it highlights the importance of inspiring and motivating the team towards achieving higher goals and developing its capabilities

3. Virtual teams

With rapid technological advances and global changes such as the Corona pandemic, virtual teams have emerged as an essential part of the work environment in modern institutions. Virtual teams are defined as groups of individuals who work together to achieve common goals without having to be in one geographical place, and are communicated through technology (Mysirlaki & Paraskeva, 2020).

Studies have demonstrated that virtual teams face unique challenges related to geographic dispersion and lack of face-to-face social interaction, which affects cohesion and effectiveness (Kock, 2008). However, effectiveness in virtual teams depends heavily on the efficiency of the use of technology, as well as the skills of the leader in guiding the team and overcoming these challenges.

4. Virtual Training in Virtual Teams

Virtual training refers to training programs delivered online to enable members of virtual teams to acquire the skills needed to improve performance (Henken, 2022). Virtual training is an effective tool to keep up with the rapid changes in the virtual work environment, as it enhances the ability of members to adapt to new technology and increases their efficiency and effectiveness.

Studies suggest that virtual coaching can be difficult to implement due to a lack of personal and social interaction that affects confidence building among team members. However, well-designed training can help overcome these challenges and improve the overall performance of the team (Rosen et al., 2006).

By reviewing the theoretical literature and previous studies, it is clear that leadership plays a pivotal role in the success of virtual teams, and that experience and training are key factors in enhancing leadership skills in these environments. The present study seeks to explore these factors more deeply and provide a developmental model that can contribute to improving the performance of virtual teams in self-managed schools in East Jerusalem.

5. A review of previous studies related to cooperation and exchange of experiences within the virtual team and awareness of the training needs of the leader and members of the virtual team

Studies related to cooperation and exchange of experiences within virtual teams and the awareness of leaders and members of these teams of training needs are vital areas in our digital age, especially with the increasing shift towards work and distance education. In this context, we will review some notable studies that have addressed these topics, focusing on theoretical frameworks and their main findings.

Zakaria (2011) conducted a study aimed at crystallizing the concept of electronic cooperation and its integration with virtual teams. The study employed a case study approach based on an electronic cooperation platform at the University of Mosul. The study concluded that e-collaboration represents a new generation in information and communication technologies, and promotes the integration of virtual

teams, leading to improved collective performance.

In the study of Gibbon (2012), the impact of the application of virtual training on the quality of training in the General Personnel Bureau in the Gaza Strip was examined. The study found a positive relationship between virtual training and improving the quality of the training process.

Rousseau et al., 2013) focused their study on the role of team coaching in supporting collective innovation through motivational and behavioral mechanisms. The results showed that training has a direct impact on supporting innovation, as well as an indirect impact on the team's behavioral process through the team's commitment to its goals.

Gonzalez et al., 2021) conducted a study in Spain to investigate the impact of management training on the well-being of virtual teams. The results showed that training increased the well-being of virtual teams, with a moderate impact of openness on formation experiences.

METHOD

This part deals with explaining the research context and its procedures forthis study by presenting the adopted curriculum and the studied variables, in addition to explaining the in-kind community and its participants, and clarifying the tool used and the procedures followed to achieve its reliability and stability. The set of successive steps to be followed for the implementation of the study will also be discussed, as well as reviewing the most important statistical methods used to verify the validity of the research hypotheses, and in conclusion, the most prominent recommendations will be presented.

Study Methodology

The study methodology adopted in this study is the mixed quantitative and qualitative approach, where quantitative research methods were used to collect and analyse data statistically through questionnaires distributed to samples of virtual team leaders and members in self-managed schools in East Jerusalem. The qualitative approach was also used through open interviews to gain a deeper understanding of the individual experiences and challenges faced by these leaders and members in virtual environments. (Alawneh, 2022)

This combination of the two approaches helped to provide a holistic view on the impact of experience and training on leadership skills in virtual teams, allowing for the integration of quantitative results that provide clear numerical indicators, and qualitative results that interpret these indicators through realistic experiences and concrete contexts.

Population and Sample of the Study:

The study community consisted of all virtual teams for the subject of mathematics (consisting of all directors, teachers, educational centers, and counselors) in the self-managed primary schools of the Ministry of Education in East Jerusalem for the academic year (2021-2022), which numbered (450) individuals, including (48) directors and managers, (24 directors, 24 directors), and also (251) teachers, (144) concentrated and(7) counselors. They work in (48) schools that apply the self-management system. These schools were distributed in terms of school type to (17) female schools, (20) male schools, and (11) mixed schools. As for the curriculum, there are (24) schools that teach the Palestinian curriculum, (14) schools that teach the Palestinian curriculum and the bejroot, and(10) schools that teach the bejroot curriculum only.

Study sample: The study sample consisted of (349) individuals Appendix (6); which is the size necessary to estimate the average of the community to be confident by 95%, and that the error in estimating the average will not exceed 2.5%, and these responses formed a percentage of approximately 78%; it included the following: the number of managers (36) individuals, the number of mentors (7) individuals, and the number of teachers (306) individuals.

Table (1) Demographic and occupational characteristics of the study sample

Age group	Details	Frequency	Weight (%)
By Gender	Male	16	-
	Female	20	-
By Gender	Male	99	-
	Female	135	-
Total (Principals and Teachers)	-	270	-
Grand Total	-	349	-

Age group	Details	Frequency	Weight (%)
Virtual Workshops	Total number of virtual teams	36	-
Distribution of the sample by age	Less than 25	37	10.6
	25-34	91	26.1
	35-39	133	38.1
	P4 and above	88	25.2
Years of experience in virtual teams	Less than 1 year	33	10
	1 - 2	135	39
	3 - 4	92	26
	5 + years - 100%	98	25
Experience in leading teams	Less than 1 year	46	13
	1 - 2	125	36
	3 - 4	91	26
	5 + years - 100%	87	25
Degree in the New Horizon system "Knowledge"	Grade 1	41	12
	Grade 2	48	14
	Grade 3	46	13
	Grade 4	30	8
	Score of 5:	31	9
	Grade : 6	42	12
	Code 7	52	15
	Grade 8/7	35	10
	Code 9	24	7
Receive training	Yes	218	62.5
	No	131	37.5
Gender	Male	142	40.7
	Female	207	59.3

The total number of principals is 36 (16 males and 20 females) The total number of teachers is 234 (99 males and 135 females)While the highest percentage of the study sample in the age group 35-39 years (38.1%) The lowest age group is "less than 25 years" by 10.6%, and the majority (39%) have experience ranging from 1-2 years in virtual teams Only 10% of the sample have experience of less than a year

We also find that most of the respondents (36%) have 1-2 years of experience in leading virtual teams, only 13% have less than a year of experience, and that the largest percentage of the sample (15%) holds a grade of 7 in the New Horizon system, the minority holds a grade of 9 by 7%, while62.5% of the respondents received training in leading virtual teams, while 37.5%

did not receive any training, and the largest percentage of the sample is females (59.3%) compared to males (40.7%)

The study tool:

A questionnaire that was used to collect the field study data was developed by distributing it to the sample members with the aim of collecting the necessary data on the subject of the study, and then unpacking it on the Statistical Package for Social Sciences (SPSS) program to conduct the appropriate statistical tests with the aim of reaching valuable indications and indicators that help answer the study questions and hypotheses and draw their results. It is a survey that contains a set of interrelated and sequential paragraphs that are answered and filled out by the study sample according

to the instructions and guidelines attached to it, with the aim of collecting data on the problem of thestudy; which is prepared with the intention of obtaining data through the opinions of the sample members about a specific phenomenon or situation. Therefore, the researcher used thequestionnaire she prepared as a tool that includes (13) paragraphs to achieve the objectives of the study.

Psychometric characteristics of the instrument

Validity and reliability of the study instrument (questionnaire)

The sample of the exploratory study consisted of (50) randomly selected people in order to verify the validity and stability of the study tool and that it measures what it was developed for.

* Content Validity: It is also called the validity of the arbitrators of the questionnaire. The apparent validity of the tool refers to the extent to which it is based on the objectives for which it was developed, and the extent to which it is related to the study and its objectives (Al-Kubaisi, 2010). The tool was arbitrated

through the assistance of the supervising doctor of the thesis, as the questionnaire was presented in its initial form to eighteen (18) arbitrators of academic professors in universities who have sufficient knowledge and experience of the work of virtual teams and specialists in the arbitration of the questionnaire of the subject of this study, Appendix (2). They made important amendments and their constructive suggestions were added and taken into account by (95%), in terms of addition, amendment or deletion, which contributed to the completion of the paragraphs of this questionnaire and in line with its paragraphs, whose questions included all the objectives of the study.

The stability of the tool is intended to give the same results if it is reapplied several times in a row to two groups and with a time difference of at least one or two weeks (Saeed, 2021).

After deleting the weak paragraphs, the stability of the questionnaire paragraphs was verified by finding the Cronbach alpha stability coefficient, as well as the stability coefficient by halving, as shown in the following table:

Table (2) Cronbach's alpha coefficient of stability, as well as the coefficient of stability by halving

Tool Areas	Number of paragraphs	Stability coefficient using Cronbach Alpha	The coefficient of stability by the half-partition method
skells	6	.821	.833
Training	7	.892	.873
All paragraphs	13	0.964	.814

The results in Table (2) indicate that the values of the stability coefficients of the Cronbach Alpha method ranged between (0.821 - 0.892), all of which have very high stability, and the values of the stability coefficients of the half-fragmentation method ranged between (0.833 – 0.873), all of which have high stability, and the total degree of the stability coefficient of all paragraphs in the Cronbach Alpha method and the half-fragmentation method,

respectively, are (0.964) and(0.814), and the two values have very high stability, and these values explain that there is very high stability for all paragraphs of the questionnaire.

Study questions: The study questions will be answered by finding arithmetic averages, standard deviations, and percentage. A grade level scale (Very Low, Low, Medium, High, Very High) was used, where the length of the category = $(7 – 1)/5$ = 1.2, as shown in Table (23).

Table (3) Grade Level Scale

Periods	Grade	
1 – Less than 2.2	Too low	
2.2 – Less than 3.4	Low	
3.4 – Less than 4.6	Average	

4.6 – Less than 5.8	high
5.8 – 7	Very high strung.

RESULTS

The first key question: What is the reality of practicing virtual teams in self-managed schools in East Jerusalem?

The following table (4) shows the estimation of the sample members to practice the virtual teams:

Table (4) Estimating the practice of virtual teams in self-managed schools in East Jerusalem

Mobile Number	Virtual Teams Practice		Arithmetic Mean	Standard Deviation	Grade	%	laying, arrangement, arranging, array, disposal, disposition, marshalling, order, orderliness, system, tidiness, settlement, configuration Area
1	Appreciate the skill of the virtual team leader and members.		640	1.570	HIGH	0.571	1
2	Establish trust between the virtual team leader and members.		5.390	828	high	77	3
3	Appraise the performance rating of the virtual team leader and members.		440	1.797	high	714	2
4	Estimate the degree of cooperation and exchange of experiences within the virtual team.		4.910	.001	Average	143	5
5	Estimate the adequacy of logistics and infrastructure.		4.590	2.157	high	0.571	6
6	Estimate the extent to which the virtual team leader and members are aware of training needs.		.030	2 087	high	857	4

The total average estimate of the practice of virtual teams	Quantity 349	5.167	1.907	HIGH	73.

We note from the previous table that the first field received the highest rating (5,640) in the analysis of the results of the table, which presents the estimates of the sample members to practice virtual teams in self-managed schools in East Jerusalem. We find that there are several basic points that deserve attention.

First, the estimation of the skill of virtual team leaders and members comes first, receiving the highest arithmetic mean (5.640) with a standard deviation (1.570). This suggests that the skills of individuals in these teams are considered high profile and form a strong foundation for the success of virtual teams. This result reflects a great commitment to the professional standards adopted within the institution, which contributes to enhancing the quality of work and professionalism, and enhances the reputation of the school in which these individuals work. It is clear that adherence to the standards is not limited to daily performance, but extends to continuously improving performance and developing skills, which is an important factor in achieving sustainable success for the team and the school alike.

Second, the confidence rating between the leader and team members came in third, with a rate of (5.390) and a standard deviation of (1.828). This score reflects a high level of trust within virtual teams, which is necessary to ensure effective communication and fruitful collaboration. Mutual trust between team members contributes to fostering a positive work environment and supports the efficient achievement of common goals.

Third, the area of performance evaluation of the leader and team members also received a high rating, with an average (5.440) and a standard deviation (1.797). This indicates that there are effective evaluation mechanisms that help monitor and improve the performance of virtual teams. Periodic and systematic performance evaluation contributes to the identification of strengths and weaknesses, and enhances the team's ability to continuously improve, which increases the chances of success in achieving the desired goals.

In contrast, the area of cooperation and exchange of experiences within the virtual team emerges as one aspect that can be improved, receiving an average rating (4.910) with a standard deviation (2.001). This indicates that there is a need for enhanced collaboration and exchange of experiences between team members. Internal cooperation is a vital element

in the success of virtual teams, and improving this aspect may contribute to achieving better performance and raising the level of overall effectiveness of teams.

As for estimating the adequacy of logistics equipment and infrastructure, this field received the lowest rating (4.590) with a standard deviation (2.157), indicating that there are logistical challenges affecting the effectiveness of virtual teams. Improving infrastructure and logistical support can enhance the ability of teams to perform more efficiently.

Finally, the assessment of the awareness of the virtual team leader and members of the training needs received a good rating (5.030) with a standard deviation (2.087). This shows that there is a good understanding among team members of the importance of ongoing training and developing the skills needed to work in the virtual environment. Awareness of the importance of training enhances the ability to efficiently meet business needs and increases the chances of success in the virtual learning environment.

Overall, the results show that the practice of virtual teams in these schools is highly valued, with some aspects that could be improved, such as internal collaboration and infrastructure. This suggests a strong work environment, with opportunities for continuous improvement to ensure the best possible results. This result is consistent with the study of (Robert & You, 2018; Mayer et al., 2022).

The second key question: To what extent are the leaders and members of the virtual teams in the self-managed schools in East Jerusalem aware of the training needs related to the leadership of the virtual teams?

Table (5) shows the assessment of the sample members of the extent to which the team leader and members are aware of the training needs:

Table (5) Estimating the extent to which the virtual team leader and members are aware of the training needs

Paragraph No.	Virtual Team Leader and Member Awareness		Arithmetic Mean	Standard Deviation	Grade	%	Arrangement Area
1	The virtual team leader is very aware and interested in the training programs of his team's work.		4.210	2.322	Average	143	7
2	Virtual Team Leader conducts the necessary tests before and after the training process to verify of the quality of learning resulting from the training.		4.700	.086	high	143	5
3	The virtual team leader is interested in providing all the necessary training equipment and tools for his team.		.030	2.117	high	857	3
4	The virtual team leader is interested in his team's opinion about the quality of training through the self-assessment forms and the group training assessment form.		5.150	2.015	high	73.571	2
5	There is a diversity of means used in the training evaluation process such as observation, success stories, recording outputs, performance comparison, work records, interview, follow-up, action plan.		4.850	2.226	HIGH	286.	4
6	The virtual team leader is concerned with the quality and modernity of the curricula used in the training.		4.470	2.168	high	857	6
7	The virtual team leader has up-to-date templates for evaluating trainers' performance.		5.630	1.676	high	429	1
Overall average to estimate the extent to which the virtual team leader and members are aware of training needs		Issue 349	.030	2 087	high	857	

The seventh paragraph received the highest rating (5.630) and standard deviation (1.676), which states that the leader has modern models to evaluate the performance of trainers, and the first paragraph received the lowest rating (4.210) and standard deviation (2.322), which states that the leader is aware of and highly interested in special training programs. Overall, the score shows that their rating of the extent to which the virtual team leader and members are aware of training needs was high (5.030), and a standard deviation (2.087).

The extent to which the leader and members of the virtual team are aware of the training needs in leading virtual teams for the subject of mathematics in the self-managed schools of the Ministry of Education in East Quds. The seventh paragraph received the highest rating(5.630) and standard deviation (1.676) which states that "the leader has modern models to evaluate the performance of trainers".

The presence of new models for evaluating the performance of trainers in the leader is an important and necessary feature in managing the virtual team. These models contribute to enhancing efficiency and effectiveness in evaluation, as the leader can use them as a valuable tool to measure the performance of trainers objectively and fairly. These models help in analyzing multiple aspects of the trainers' performance, such as teaching skills, communication, interaction with trainees, motivation, and achieving goals using modern models, the leader can provide an accurate and detailed evaluation of the trainers' performance and guide them towards developing their skills based on the results. This contributes to improving the quality of training and increasing the effectiveness of the virtual team.

In general, the leader's commitment to developing his team and ensuring that the trainers' skills are maximized is reflected in the presence of up-to-date models for evaluating trainers' performance. This professional approach enhances the efficiency of the virtual team and ensures that goals are achieved more efficiently. This is consistent with a study (Gonzalez et al., 2021).

Sub-question 1:

Are there statistically significant differences at the level of significance $\alpha > 0.05$ between the opinions of the respondents (school staff in East Jerusalem) about the awareness of the virtual team leader and members of the training needs, attributed to the age variable

Question 2:

Are there statistically significant differences at the significance level α>0.05 between the opinions of the respondents (school staff in East Jerusalem) about the awareness of the virtual team leader and members of the training needs, attributed to the variable of years of experience in participating in virtual teams?

Question 3:

Are there statistically significant differences at the significance level α>0.05 between the opinions of the respondents (school staff in East Jerusalem) about the awareness of the virtual team leader and members of the training needs, attributed to the variable of years of experience in leading virtual teams?

Sub-question 4:

Are there statistically significant differences at the significance level α>0.05 between the opinions of the respondents (school staff in East Jerusalem) about the awareness of the virtual team leader and members of the training needs, attributed to the score variable in the New Horizon system?

Table (6) shows the results of the single variance analysis test according to the variables (age, years of experience in participating in virtual teams, years of experience in leading virtual teams, grade in a new system), and it was found from the analysis that there are statistically significant differences in the awareness of the virtual team leader and members of the training needs according to the variables.

Table (6) Univariance analysis to test the sixth hypothesis according to the variables (dependent variable: awareness of the training needs of the virtual team leader and members).

Independent Variables	Source of variance	Sum of squares	df	Intermediate teams	F	Significance level
Age	Between Groups	676	3	892	.809	.000
	Within Groups	.961	345	2.011		
	Total	837	348			
Years of experience participating in virtual teams	Between Groups	968	3	.656	914.	.001
	Within Groups	796	345	2.309		
	Total	837	348			
Experience in leading teams	Between Groups	.741**	3	247.	276	.001
	Within Groups	895	345	2.321		
	Total	837	348			
Grade in New Horizon System	Between Groups	952	8	14 494	6.828	.000
	Within Groups	.721	340	2.123		
	Total	837	348			

From the results of the single variance analysis test shown in Table (6), it appears that there are statistically significant differences in the extent to which the virtual team leader and members are aware of the training needs based on the four variables studied (age, years of experience in participating in virtual teams, years of experience in leading virtual teams, and grade in the New Horizon system).

- The results showed statistically significant differences (p < 0.05), which means that age plays a role in the difference in the sample members' awareness of training needs. This may be the result of different experiences and experiences that come with age.

• The results showed that there were statistically significant differences between individuals according to their years of experience in participating in virtual teams. This suggests that more experienced individuals tend to be more aware of training needs, perhaps because of their exposure to more complex and challenging situations.

• Also, it was found that there are statistically significant differences here, which means that years of experience in leadership have a clear impact on individuals' awareness of training needs. More

experienced leaders may be better able to identify and address training needs effectively.

The results also showed statistically significant differences with respect to score in the New Horizon system, reflecting that individuals with higher scores in this system may have greater awareness or a deeper understanding of training needs.

To find out the source of the differences, a verbal test was found for post comparisons to determine between which categories these differences were and in favor of whom, as in Table (7):

Table (7): A curative test for post comparisons according to the age variable

Age	Age	Intermediate teams	Significance level
	25-34	.294	770.
Under 25 years old	than 35	|||UNTRANSLATED_CONTENT_START|||1.457*|||UNTRANSLATED_CONTENT_END|||	.000
	P4 and above	069	996
	Under 25 years old	293	770.
25-34	than 35	163	.000
	P4 and above	225-	.771
	Under 25 years old	|||UNTRANSLATED_CONTENT_START|||-1.457*|||UNTRANSLATED_CONTENT_END|||	.000
than 35	25-34	163	.000
	P4 and above	388	.000
	Under 25 years old	(0.068)	996
P4 and above	25-34	0.225	.771
	than 35	388	.000

Through Table (7) of the post-comparison lab test according to the age variable, the following can be observed:

• The differences between the age group "less than 25 years" and the age group "35-39 years" were in favor of the group "less than 25 years".

• Differences between the "35-39 years" age

group and other age groups (less than 25, 25-34, 40 and above) were in favor of the "35-39 years" group.

• The differences between the age group "40 and above" and the age group "35-39 years" were in favor of the category "40 and above".

This suggests that individuals in the 35-39 age group are more conscious compared to other age groups, perhaps

because of their balance of work experience and professional maturity.

Table (8): A verbal test for post-comparisons according to the variable of years of experience in participating in virtual teams

Years of experience participating in virtual teams	Years of experience participating in virtual teams	Intermediate teams	Significance level
Less than 1 year	1– 2	2.003	0.330
	3... 4...	768	449.
	5 + years - 100%	0.563	970
1– 2	Less than 1 year	-003	0.330
	3... 4...	.234	633**
	5 + years - 100%	-1.440*	.003
3... 4...	Less than 1 year	-768	449.
	1– 2	0.235	633**
	5 + years - 100%	205	.028
5 + years - 100%	Less than 1 year	563	970
	1– 2	1.440*	.003
	3... 4...	205	.028

From Table (8), we find that the differences were in favor of individuals with "5 years and more" of experience in participating in virtual teams, compared to groups with less experience. This reinforces the idea that long experience in virtual work contributes to increased awareness of training needs.In the variable of years of experience in leading virtual teams as in Table (9):

Table (9): A verbal test for post comparisons according to the variable of years of experience in leading teams

Experience in leading teams	Experience in leading teams	Intermediate teams	Significance level
Less than 1 year	1– 2	312	.009
	3... 4...	1.415*	.002
	5 + years - 100%	1.046	.138
1– 2	Less than 1 year	-1.312*	.009
	3... 4...	0.103	962
	5 + years - 100%	-266-	872
3... 4...	Less than 1 year	-1.415*	.002
	1– 2	103	962

	5 + years - 100%	-369	663
5 + years - 100%	Less than 1 year	.046	.138
	1– 2	0.266	872
	3... 4...	369	663

In Table (9), the differences were in favor of individuals with "less than a year" of experience in leading virtual teams when compared to the categories with the greatest experience (1-2 and3-4 years). This may be a result of these new leaders focusing more on training needs due to their lack of experience and willingness to learn and develop

Table (10): A verbal test for post comparisons according to the degree variable in the new horizon system "knowledge" (dependent variable: awareness of the leader and members of the virtual team of training needs).

Score in Horizon System New "Knowledge"	Degree in the New Horizon system "Knowledge"	Intermediate teams	Significance level
2	6	-1.957[*]	.031
6	2	1.957[*]	.031

Table (10) indicates that the differences were in favor of individuals with a score of "6" compared to those with a score of "2", indicating that progress in the New Horizon system is associated with increased awareness of training needs. This can be explained by the fact that progress in the system reflects an accumulation of experience and knowledge that helps to better identify training needs.

Overall result:

Overall, the results indicate that there are statistically significant differences in the awareness of the virtual team leader and members of the training needs depending on the different variables studied. Experience, whether in age or years working in virtual teams, plays an important role in determining these differences. More experienced and older individuals, or with higher scores in the New Horizon system, appear to be more aware and interested in identifying and addressing training needs, reflecting the importance of ongoing experience and knowledge in developing a deep understanding of training needs in virtual teams.

Sub-question 5:

Are there statistically significant differences at the significance level α>0.05 between the opinions of the respondents (school staff in East Jerusalem) about the awareness of the virtual team leader and members of the training needs, attributed to a variable that received training on leading virtual teams?

Sub-question 6:

Are there statistically significant differences at the significance level α>0.05 between the opinions of the respondents (school staff in East Jerusalem) about the awareness of the virtual team leader and members of the training needs, attributed to the gender variable?

When examining the differences in training needs according to the gender variable and receiving training, the analysis found that the differences were in the training needs according to the variable of receiving training for the benefit of those who did not receive training. While there were no statistically significant differences in training needs according to the gender variable, that is, males and females were estimated to the same degree, as in Table (11):

Table (11): Table of t-test to test the sixth hypothesis according to the gender variable and the variable of receiving training on leading virtual teams

Dependent variable	The independent variable	Age group	Quant ity	Arithmetic Mean	Standard Deviation	t-value	Significan ce level
Virtual Team Leader and Members Awareness of Training Needs	**Gender**	**Males**	142	.790	648	**-.717-**	**474**
		Females	207	4, 914	1.483		
	Receive training	**Yes**	218	681	.675	**.067**	**.002**
		No	131	5.167	269		

When analyzing the differences in the awareness of the virtual team leader and members of the training needs according to the "Receive virtual team leadership training" variable, the results show statistically significant differences at the significance level $\alpha > 0.05$.

According to Table (11), the differences were in favor of the individuals who did not receive the training, as they obtained an arithmetic mean (5.167) compared to an arithmetic mean (4.681) for the individuals who received the training. The calculated t-value was (-3.067) at a significance level (0.002), indicating that individuals who did not receive training were more aware of training needs than those who received training.

This can be attributed to the fact that individuals who have not received training may be more sensitive to the need to develop their skills and awareness of training requirements, making them more interested in identifying those needs. Individuals who have received training may already feel that they have acquired sufficient knowledge, which may underestimate their need for further training.

For the gender variance analysis, the results did not show statistically significant differences in the awareness of the virtual team leader and members of training needs.

According to Table (11), the arithmetic mean of awareness of training needs for males was (4.790) compared to (4.914) for females, with a value of (-0.717) and a level of significance (0.474), which means that the differences are not statistically significant.

Explanation: This suggests that gender does not play an influential role in individuals' awareness of training needs in this case. Whether male or female, their estimates and awareness of training needs were very close, reflecting that both genders have an equal level of awareness of the importance of training and the needs required in the virtual work environment.

These findings underscore the importance of focusing on developing training strategies that take into account differences in individual experiences and experiences more than relying on traditional training alone, and highlight the lack of gender discrimination with regard to awareness of training needs, indicating equal opportunities between males and females in this context.

Analysis of Interviews

The present study seeks to understand the impact of experience and leadership skills training in virtual teams in self-managed schools in East Jerusalem. To achieve this goal, qualitative interviews were conducted with five managers, eight teachers, and three mentors. Interviews aim to explore how logistical setups, different experiences, and available training affect the quality of leadership and work in virtual teams. The analysis addresses the type of challenges and experiences that managers, teachers, and counselors face in these virtual learning environments.

Questions per category:

1. Managers:

Question 1: How do you assess the impact of available training on developing your leadership skills in virtual teams?

The answers were varied, with managers noting that the training available to them was helpful in improving their leadership skills, but emphasizing the lack of guidance dedicated to managing virtual teams. Managers who received advanced training confirmed that they were able to apply the acquired skills to improve communication and interaction within virtual teams. In contrast, some noted that the training was too general and did not specifically address the challenges of virtual teams, making it difficult to actually apply the knowledge gained. One manager confirmed that ongoing training was more helpful in developing their capabilities, while another manager considered that the absence of practical follow-up after the training reduced their effectiveness.

Question 2: How does past experience affect your ability to lead virtual teams?

Managers noted that past experience plays a big role in

fostering trust and the ability to effectively manage virtual teams. Managers with long experience managing traditional teams found the transition to virtual work challenging, but were able to adapt quickly given their previously acquired skills in motivation and mentoring. On the other hand, other managers stressed that virtual work requires additional skills, such as the ability to use technology effectively and develop strategies to overcome technical obstacles, which made some traditional experiences insufficient on their own.

Question 3: What are the main challenges you face when leading virtual teams?

The most prominent challenges mentioned by managers were related to effective communication between team members, as they consider that the absence of personal interaction reduces the opportunity to build strong relationships between members. One manager noted that dealing with differences in the level of technical expertise between team members was a major challenge, as he had to provide ongoing support to those who lacked the necessary skills. Others also pointed to the difficulty of motivating members when dealing with screens, as it becomes difficult to measure the level of motivation and interest in individuals.

Question 4: How do you evaluate the performance of virtual team members?

Managers stated that they rely on various performance indicators to evaluate team members, such as the extent to which deadlines are met and the quality of tasks completed. One manager explained that they also use regular one-on-one sessions to provide feedback and make sure members understand the team's goals. Another manager stated that he relies on co-worker ratings as a way to measure members' performance more comprehensively. All stressed that evaluating performance in a virtual environment requires greater flexibility and more continuous interaction to compensate for the absence of direct monitoring.

Question 5: What strategies do you use to improve the effectiveness of virtual teams?

Managers explained that strategies include promoting continuous communication between team members using different means of communication such as group chat and video meetings. Some managers are keen to organize virtual team-building sessions, such as interactive workshops or online social activities, to strengthen links between members. One manager stated that he is working to set aside time to discuss the challenges members face individually, which helps reduce stress, increase comfort, and integrate into the

virtual work environment.

2. Teachers

Question 1: How do you assess the impact of the training on improving your virtual learning capacity?

Teachers explained that the training was useful in improving their technical and cognitive abilities, but considered that it was not fully sufficient to meet the requirements of virtual education. Some teachers confirmed that the training was focused on theoretical aspects without providing sufficient practical guidance. Others have also expressed the need for ongoing trainings to keep pace with changes in VETs and acquire pedagogical best practices.

Question 2: How does your teaching experience affect your ability to teach in a virtual environment?

Teachers noted that their experience in traditional teaching was of partial benefit in virtual work, as it helped them understand students' needs and deal with their differences. However, some pointed out that virtual education requires additional skills, such as controlling technology and managing virtual classrooms effectively. Some teachers also stated that virtual work requires an increase in effort to ensure that all students are engaged and keep their attention.

Question 3: What are the main challenges you face in virtual education?

The most prominent challenges faced by teachers include the difficulty of interacting directly with students, which leads to a decline in the level of participation and dialogue. Some teachers also pointed to infrastructure issues, such as slow internet connectivity or a lack of equipment for some students. Others stated that the absence of a traditional interactive environment makes it difficult to assess students' understanding of the material provided.

Question 4: How do you assess student performance in a virtual learning environment?

Teachers explained that they use different assessment tools, such as electronic quizzes, individual projects, and evaluation of interactive activities that take place during virtual classes. Some teachers noted that assessment requires flexibility in dealing with technical differences between students. They also rely on monitoring students' commitment to attend and actively participate in educational activities.

Question 5: What strategies do you use to enhance student participation in virtual education?

Teachers use several strategies to enhance student engagement, such as dividing students into small groups for collaborative work in a virtual environment, and using educational games to enhance interaction. One

teacher stated that he encourages students to give presentations periodically, which increases the level of participation and self-confidence. Teachers also emphasized the importance of continuous communication with students and parents to enhance commitment and interaction.

3. Usher:

Question 1: How does logistics affect your ability to provide psychosocial support in the virtual environment?

Counselors explained that the lack of logistical equipment affects their ability to provide the necessary support to students, as poor internet access causes sessions to be interrupted and reduces the quality of communication. One counselor mentioned that the lack of devices for some students makes it difficult to reach them and provide assistance at the required times, which hinders the achievement of psychosocial support goals.

Question 2: What are the challenges you face when providing psychological counseling virtually?

Counselors noted that the biggest challenges include the inability to read body language and interact directly with students, which affects the quality of the sessions. They also mentioned that some students lack private space that allows them to speak freely, making it difficult to create a safe environment for communication. These challenges hinder the ability to fully and effectively provide support.

Question 3: How does previous experience in traditional counseling affect your work in the virtual environment?

Counselors reported that their previous experience in traditional counseling has been helpful in building strategies for dealing with students, but virtual work requires greater adaptation to technical conditions. Some counselors noted that using technology to communicate with students was initially challenging, but they were able to develop new skills over time, which helped them overcome obstacles and strengthen communication.

Question 4: What methods do you use to compensate for the lack of direct communication with students in virtual counseling?

Counselors explained that they rely on the use of interactive tools such as instant messaging and phone calls to make up for the lack of direct communication. They also organize periodic sessions to enhance confidence among students and encourage them to express their feelings. One counselor noted that the use of interactive virtual activities helped improve the level of communication between him and the students.

Question 5: What actions would you suggest to improve the quality of psychosocial counselling in the virtual environment?

Counselors emphasized the importance of improving the technical infrastructure to ensure the uninterrupted continuation of the sessions. They also suggested ongoing training for counselors on the use of technological tools in counseling, and the development of secure platforms to ensure student privacy. One counselor recommended strengthening collaboration between schools and parents to ensure a supportive environment for students at home, contributing to the effectiveness of virtual counseling.

Qualitative Analysis:

By analyzing interviews with managers, teachers, and mentors, it is clear that there is agreement on the importance of training and experience in improving the quality of work in virtual teams. Managers see training as enhancing their leadership abilities, but they face challenges related to communication and motivation in a virtual environment. On the other hand, teachers suffer from lack of equipment and difficulty interacting with students, which affects the quality of virtual education. Counselors, in turn, face challenges related to interpersonal communication and the provision of psychological support, and suggest improving technical infrastructure and ongoing training to enhance the quality of counseling.

Recommendations

• Training programs should be enhanced to include advanced practical skills related to virtual team leadership and operations management in the virtual environment. This can include the development of digital communication skills, the use of modern technological tools, and strategic planning for virtual teams.

• Ongoing training opportunities should be provided to virtual team leaders and members, with a focus on periodic updates of training curricula and tools to ensure that they keep abreast of technological and pedagogical developments.

• Schools should invest in improving the technological infrastructure to ensure that all the necessary tools and equipment are available to effectively support the work of virtual teams.

• Modern and comprehensive models for evaluating the performance of trainers should be developed and adopted, focusing on different aspects of performance and including participant feedback and evaluation of achieved goals.

• Training programs that take into account individual differences between participants, including

years of experience and skill level, should be designed to ensure that the needs of all members are effectively met.

• Periodically assess the training needs of each member of the virtual team to ensure that the training is targeted to the current needs of the team.

• Schools should promote awareness among virtual team leaders and members of the importance of ongoing training and skills development to ensure effective performance and excellence in the virtual work environment.

• Ensure that training opportunities are equally accessible to all, regardless of gender, to ensure that the skills of all members are developed without discrimination.

• Additional training programs should be offered to individuals to make the most of the New Horizon system, with a focus on developing awareness of training needs and continuous professional development.

• These recommendations aim to improve the effectiveness of virtual teams in self-managed schools in East Jerusalem, and to promote awareness of the importance of continuous training among team leaders and members, which contributes to achieving the goals of schools efficiently

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