# The Degree of Availability of the Necessary Requirements for the Practice of Virtual Leadership at the Department of Public Education in the Eastern Province

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## Abstract

*To succeed in work in a virtual environment, which has become inevitable due to technological development and global openness, you should have an effective virtual leadership, which can only be achieved by the availability of its requirements. This study aimed to identify the degree of availability of the necessary requirements for the practice of virtual leadership and explored the 1105 school leaders of schools affiliated with the Department of Public Education in the Eastern Province. The study used a controlled questionnaire with a response rate of 34.2%. The data analysis of the results indicated the availability of the necessary requirements for practicing virtual leadership to a large extent, with an average of (3.76). The results showed that there are statistically significant differences in the availability of virtual leadership requirements due to the educational qualification variable, the type of academic qualification and the education office the school belongs to. The results showed that there are no statistically significant differences in the degree of availability of virtual leadership requirements due to years of service in leadership. The study recommended activating virtual leadership in the Department of Public Education in the Eastern Region and enhancing its concept.*

**Keywords:** *virtual environment, schools, academics.*

## Introduction

Information and communication technology advancement has revolutionized the world at all levels, which had its effect on organizations and the way they work, which lead to many work environments. Perhaps one of the most recent is the virtual work environment (Pullan, 2016) (Kahai, Fjermestad, Zhang & Avolio, 2007). The basis of which is to replace many tools with one tool using which you can communicate with many people in different places, and for such an environment to run, it was necessary to have a virtual leadership capable of creating effective virtual work teams (Pullan, 2016).

Accordingly, the acquisition of tools by itself was not sufficient as it must be accompanied by training the work force to interact with these tools and create an effective virtual work environment. The global events have made it necessary to use such environments not only in the field of economy, but in any administrative field, whether governmental or private, and perhaps the clearest example of this necessity is the Covid

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19 pandemic, which transformed work in a virtual environment overnight from just a future project and luxury to an urgent necessity, and from this standpoint, the activation of virtual leadership in any organization becomes a necessity, not a luxury.

Theoretical Perspective

Virtual work in its entirety is not new as it has been practiced since the emergence of technology, that is, more than twenty years ago (Caulat, 2010), in addition to the fact that the idea of virtual leadership was previously proposed in the sense of simulation and re-enactment of roles in media context (Boje & Rhodes, 2005), but the technological revolution contributed by laying a foundation for this work in terms of providing modern communication tools that continue to enrich it (Pullan, 2016)).

Virtual leadership requires effective communication and optimal use of technology, as well as a virtual leader with comprehensive personality traits of openness, interest, rationality, flexibility, honesty and trust building, in addition to a virtual team capable of exchanging and understanding information, and jointly developing the meaning of exchanged information (Johnson, 2010) (Zigurs, 2003).

Similar to the requirements, the challenges facing virtual leadership are represented in cultural, geographic, linguistic and sometimes age differences, which have a negative effect if not addressed and treated (Pullan, 2016b).

It can be said that the virtual environment needs a virtual leader who is capable of virtual leadership to influence a virtual team to make the virtual operation successful and high performing.

Problem Statement

Failure to properly utilise electronic services despite their availability (Al Hammadi, 2013) results in a waste of time, effort and material. The General Education Department conducts courses and meetings that require female leaders to be physically present at the department's headquarters, despite the presence of techniques and tools that may replace that and activating them will lead to achieving the desired effectiveness of the administrative system. This activation is possible only through a virtual leadership capable of leading these combined components. Hence the importance of studying the requirements of virtual leadership, based on that, the study questions are as follows:

-        What is the degree of availability of the necessary requirements for the practice of virtual leadership among the leaders of the departments affiliated with the Department of Public Education in the Eastern Region from the prespective of the leaders of the affiliated schools?

-        Are there statistically significant differences given the significance level ($\alpha$ = 0.05) in the degree of availability of the requirements to practice virtual leadership among the leaders of the General Education Department in the Eastern Region with the study variables being: educational qualification, type of educational qualification, years of experience in leadership, education office the school is affiliated with (geographical location)?


## Methodology

The descriptive approach was used due to its relevance to the study topic.

Community and sample

The study population consisted of all female leaders in public and private schools for female education for all levels including kindergarten, primary, intermediate, and secondary schools in the Eastern Province of the Kingdom of Saudi Arabia, with a total of (1105) leaders (Department of Public Education in the Eastern Province, 2020). The

sample was determined using stratified random sampling method, so the total sample collected for this study was (378) responses with a response rate of 34.20% of the original community, which is higher than the minimum requirement to represent a community.

Tools

Questionnaires were used as a tool for its suitability to the methodology and nature of the study in light of the reviewed literature that was checked for validity and reliability.

Statistical methods

To answer the first question, the average and standard deviation were used to analyze the opinions of the study sample about the degree of availability of the requirements necessary for the practice of virtual leadership. In order to answer the second question, two t-tests and One Way ANOVA were used to find out the differences between the average opinions of the study sample by educational qualification, type of educational qualification, years of experience in leadership and the school's educational office, in addition to the Scheffe test for analysis of variance (ANOVA).

## Results

After completing the data collection, the data was analyzed using the SPSS statistical analysis program, and the results were as follows:

The results of the first question:

It was found that the average and standard deviation of the degree of agreement of the study sample's opinions about the degree of availability of the requirements necessary for the practice of virtual leadership was significant, as the total average was (3.76) while in ordering the requirements in terms of abundance, the requirements related to the team, i.e. the third axis, in the first rank with a large average which amounted to (3.95) from the point of view of school leaders, followed by the second axis, the requirements related to the leader with a large average of (3.68), and in the end, the requirements related to the environment (the first axis) with a large average amounted to (3.64).

In the first axis, it is noted that the third paragraph states that "meetings of school leaders are held at the headquarters of the Education Office." On the first rank with a high average (4.07) and a large degree, while the second paragraph comes in the last place, which states that "communication between the school and the Education Office departments is via video communication programs (Skype - chat rooms)" where it reached an average of (2.89) on average as for the second axis, the first paragraph states: "The leaders of departments in the Education Office are proficient in using communication tools and programs." (E-mail - telephone - chat rooms - video conferences) skillfully while communicating with school leaders." In the first place, with an average (4.04) on a large degree, while the second paragraph comes in the last place, which states "The leaders of departments in the Education Office have a personal relationship with school leaders." reached an average of (2.70) on an average degree. Finally, in the third axis, the first paragraph states that "the school leader is skilled in using communication tools and programs (e-mail - telephone - chat rooms - video conferencing) skillfully while working"; is on the first rank, with a mean (4.10) and a standard deviation (0.78), while the second paragraph, which states, "Courses are given to develop the technical skills used at work by school leaders are given by the Education Office…" averaged (3.70). All of this is illustrated in the following table:

| A | Axis | Average | Standard Deviation | Approval score | Ranking | Paragraph | Average | Approval score |
|---|------|---------|--------------------|----------------|---------|-----------|---------|----------------|
| 1 | The first axis: requirements related to the environment (working environment) | 3.64 | 0.78 | high | 3 | 3 | 4.07 | high |
| | | | | | | 2 | 2,89 | Average |
| 2 | The second axis: requirements related to the leader (in the education office) | 3.68 | 0.85 | high | 2 | 1 | 4.04 | high |
| | | | | | | 2 | 2.70 | average |
| 3 | The third axis: requirements related to the team (school leaders) | 3.95 | 0.68 | high | 1 | 1 | 4.10 | high |
| | | | | | | 2 | 3.70 | High |
| Total | | 3.76 | 0.68 | high | | | | |

The results of the second question:

It is clear from the results of the one-way analysis of variance test for the degree of the study sample point of view about the requirements for practicing virtual leadership, we find that the educational qualification variable significance level is of statistically significant value at the level of (0.05) of the total questionnaire degrees, and for the second and third axes shown in the following table:

| Axis | F Value | Statistical Significance | Significance |
|------|---------|--------------------------|--------------|
| The first axis: requirements related to the environment (working environment) | 1.93 | 0.15 | Insignificant |
| The second axis: requirements related to the leader (in the education office) | 3.83 | 0.02 | Significant |
| The third axis: requirements related to the team (school leaders) | 3.31 | 0.04 | Significant |
| Total | | 3.49 | 0.03 | Significant |

By conducting a Scheffe test, we find statistically significant differences in favor of the diploma holders perspective over the postgraduate qualification holders. As for the qualification type variable (educational, non-educational), the results of the t-test of two independent samples indicate the differences between the average opinions of the study sample. We find that the statistical significance is significant in the second axis indicating the educational leader requirements (in the educational office), there is a difference between the perspective of educators and non-educators in the degree of requirements for the practice of virtual leadership related to the leader in the Department of Education in the Eastern Region for the benefit of educators. This is evident in the following table:

| Axis | T Value | Statistical Significance | Significance |
|------|---------|--------------------------|--------------|

| The first axis: requirements related to the environment (working environment) | 0.616 | 0.538 | Insignificant |
|---|---|---|---|
| The second axis: requirements related to the leader (in the education office) | 2.44 | 0.015 | Significant |
| The third axis: requirements related to the team (school leaders) | 0.968 | 0.334 | Insignificant |
| Total | 1.624 | 0.105 | Insignificant |

As for the years of service variable in leadership, the results of the unilateral analysis of variance test for the degree of the study sample perspective about the necessary requirements to practice virtual leadership for the axes of the questionnaire were that the value of the significance level is not statistically significant at level (0.05) for all the questionnaire axes, as well as the total degree of the questionnaire, meaning that the perspective of the sample does not change depending on the years of service in educational leadership related to those requirements.

Finally, it is clear from the results of the one-way analysis of variance test for the degree of viewpoint of the study sample about the requirements for practicing virtual leadership of the questionnaire axes according to the variable of the education office that the school follows for the study sample that the value of the significance level is statistically significant at the level (0.05) for the total score of the questionnaire and for all the axes of the questionnaire. By conducting a Scheffe test, we find statistically significant differences in favor of the West Dammam Education Office over all educational offices (East Dammam, Khobar, and Qatif), as well as statistically significant differences in favor of the Jubail Education Office over the education offices of (East Dammam, Khobar, Abqaiq, Nairiyah, and Qatif), as well as statistically significant differences in favor of the Khafji Education Office over other Education offices (East Dammam, Khobar, Abqaiq, and Qatif), and there were differences in favor of the Higher Village Education Office over the two education offices (East Dammam and Khobar), while no statistically significant differences appeared between the rest of the offices.

## Discussion

In the first question, it was found that the degree of availability of the requirements for practicing virtual leadership is largely available, whether the requirements related to the environment, the leader, or even the team in the Department of General Education in the Eastern Region from the point of view of school leaders with a total mean of (3.76), and this may be attributed to the Ministry of Education's attempt to keep pace with Vision 2030 and develop its administrative apparatus (Ministry of Education, 2020). As for the order of requirements in abundance, the requirements for the practice of virtual leadership related to the team were the most abundant from the point of view of the study sample, with an average of (3.95), this may be due to the common interests and goals that require team members of school leaders in the same educational area to communicate continuously; The majority of activities conducted by the Education Office and directed to schools are collective. This may also be attributed to reciprocal transactions such as transferring and accepting female students, in addition to the twinning processes in which schools participate in to benefit from each other's experiences. This is followed in the order of the degree of approval of the requirements - the second axis - the requirements related to the leader, with an average (3,68), this may be due to the ministry's attentiveness to leaders in educational offices because they are the link with the operational management (school leaders), which necessitates the presence of skills and competencies - especially acquired competencies – as they have to lead and supervise schools in a sound and fruitful manner, which was confirmed in the study conducted by

Figaro (2015), which states that 49 competencies and traits of virtual leaders can be taught and acquired by learning. In conclusion, we find that the requirements related to the environment (material resources) are the least abundant from the point of view of school leaders with an average of (3.64). It could be due to the inconsistency of school buildings between different educational areas; therefore, the allocated resources could be different based on the priority of their necessities, in addition, the attention is usually directed towards the human resource and neglects the material resource, the availability of which is usually associated with the financial cost, which may not be available.

In the most available requirements related to the team, we find that the skill of using modern means of communication (e-mail - telephone - chat rooms - video conferencing) was in the forefront and the highest with an average of (4,10) due to the fact that modern means of communication are accessible to everyone and easy to use as they represent the nerve of daily life, and this indicates the importance of the means of communication in communication as a requirement for virtual leadership, which is consistent with the study conducted by Hyppönen (2017), which sees that communication is very important in virtual leadership. The requirement to give courses and develop skills by the Education Office comes last in terms of the degree of availability, with an average of (3.70), perhaps the reason for this is that school leaders do not have enough time with the daily work requirements to obtain such courses and prefer self-training, and this is proven by the fourth paragraph, where the phrase "developing efforts in a self-directed manner" got the previous (fourth) order, in addition, the focus of education offices on the progress of the process at this stage making course provision at intervals and not continuously, according to the website of the General Administration of Education in the Eastern Province (2020), and this is somewhat consistent with the study conducted by Al Saud (2018), which sees that the greatest difficulty facing virtual work teams is the lack of training programs suitable to the size of the expansion of the geographical scope of the work.

As for the requirements related to the leader, the skill of using communication tools and programs was the highest in the rank in abundance from the point of view of school leaders with an average of (4.04) this may be attributed to the Ministry of Education's interest in qualifying the cadres concerned with leading the operational department and their direct communication with them. Female leaders are well-equipped in terms of technical competence, and this indicates the importance of the leader having the appropriate skills, and this is consistent with the study conducted by Freeman (2017), which results are that the use of appropriate techniques by the virtual leader is one of the strategies used to motivate work teams. It is also consistent with the study conducted by Haley (2018) of which one of its results is that open communication with the need to clarify goals and objectives is one of the important strategies used by virtual leaders in their successful management of teams. While we find that in terms of relationships and building them, they do not enjoy this efficiency to a large extent, as it was the least available from the point of view of the leaders, with an average of (2.70) as a requirement - although it is not bad as a result, but it remains the lowest in ranking to a medium degree - and this may be attributed to the fact that the skill of building relationships, which enhances trust between the leader and his team, is a skill that often requires face-to-face interaction, and this is confirmed by a study conducted by Gould (1997). Therefore, building relationships through virtual channels requires more time and effort than direct channels, which is consistent with the results of the study carried out by Wells (2017). Also, adhering to some traditional methods of leadership and the fact that the concept of building relationships on a personal level between the leader and his team with the aim of improving work is a modern and advanced concept in relation with the academic work environment, and it is still unknown and needs a lot of clarification and classification, that is, it is considered a high skill, and we find that female leaders do not give enough consideration and abundance, this is in line with the study conducted by Al-Turki (2018), which sees that one of the obstacles to the application of virtual leadership is adherence to traditional leadership methods.

Finally, in the axis with the lowest degree of approval of the study sample in terms of its availability as a requirement is the environment axis, in which we find that the phrase holding meetings for school leaders at the headquarters of the Education Office is the highest in terms of ranking with an average of (4.07) and this is due to the lack of appropriate tools (material resources) to communicate; which causes a waste of the leaders' time and occupying places in the headquarters of the Education Office that may hinder the workflow. We find that the abundance of communication between the school and the Education Office via video communication programs was the lowest in terms of requirements from the point of view of the school leaders with an average of (2.89), indicating a medium degree, and this may be due to the lack of material resources and its high cost in relation to the vastness of the region and the lack of suitable time and appropriate vision of the need for such technology, and this is evident in the third paragraph, which is the establishment of meetings at the workplace in the presence of leaders achieving the highest degree in relation to other requirements. This result is consistent with the study conducted by Al-Ghadeer (2015), which found that the means of communication in government organizations are almost primitive, lack creativity, and are limited to e-mail.

As for the second question, we find that there are statistically significant differences due to the following variables: In the educational qualification variable, there was a difference in viewpoints in favor of the diploma qualification holders over the graduate qualification holders; in the requirements necessary to practice virtual leadership related to the leader and team in the Education Department in the Eastern Province, it achieved a total significance level of (0.03), which is a value less than (0.05), and this may be due to the incompatibility of the applied side with the theoretical side, which represents the academic background of the sample, we find that diploma holders are more experienced and knowledgeable about the field and its requirement, while postgraduate holders are more affected by theories and theoretical science, and it is not hidden that there is a gap between the theoretical and the application side that may have contributed to making the viewpoint of the diploma holders prevail.

In the variable of the type of educational qualification, it was found that there were statistically significant differences in favor of the educators' point of view over the non-educators' point of view in the requirements necessary to practice virtual leadership related to the leader in the Education Department in the Eastern Province, as it achieved a level of significance (0.015), which may be attributed to the presence of experience and educational foundations practiced by the educator that stems from his education, which makes him have a better ability to determine the requirements necessary to practice any modern strategy or technology at work, in addition to the fact that the educator understands the supervisory role that the leader plays more than others by virtue of his educational background.

As for the years of service in leadership variable, there were no differences in the views of the study sample about the degree of availability of the requirements necessary to practice virtual leadership in the Department of Public Education in the Eastern Province; the reason may be that the newcomers at work reach the required functional maturity in a short period, which makes them equal in the views formed about the work, or it may be that the nature of the work routine and bureaucracy in it makes experience a secondary factor due to the similarity of practices, ways of thinking and opinions formed.

Finally, the variable of the education office that the school is affiliated with, it was found that there are differences in the views between the opinions of the study sample about the degree of availability of the necessary requirements for practicing virtual leadership in the education department in the Eastern Province in favor of the education offices in western Dammam, Jubail, Khafji and the upper village over the education offices in Al-Khobar, Qatif, eastern Dammam, Abqaiq and Al-Nairiyah, with a total level of significance (0.00), the reason for this may be that although the policy applied to education offices is central,

there may be differences in the personal judgments practiced in each office stemming from the different nature of the region and its proximity or distance to the administration and the different nature of its material needs, in addition to the difference in academic qualifications and their type of workers in these offices, all of this may play a role in reinforcing the difference in viewpoints.

## Summary

The requirements for the practice of virtual leadership in the Department of Public Education in the Eastern Province are most abundant, with the requirements related to the team being the most abundant. There are also statistically significant differences in the degree of availability of virtual leadership requirements due to the educational qualification variable, the type of academic qualification and the education office the school is affiliated with.

## Recommendations

The study showed the availability of the necessary requirements for the practice of virtual leadership in the management of public education in the eastern region to a large extent, therefore, the study recommends activating it by applying it and enhancing its concept by providing courses and continuous training. Also, increasing the material and technical support to achieve better results in its practice.

This study also paves the way for research on the degree of application of virtual leadership and its relationship to administrative development in management. Also, the issue of emerging leadership or variables such as trust and relationship building was not addressed, which forms the basis for future research.

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