How do Bedouin Students at Higher Education Institutions in Israel Evaluate the Impact of Educational Leadership on their Science Achievement at School?

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Abstract

This dissertation investigates how principals' management and leadership styles in Bedouin schools in Israel's Arab sector impact their students' science performance, from the perspective of Bedouin college science students. Specifically, the study sought to understand how the principal's different leadership and management approaches may have impacted the science performance of college students in this community and to identify any areas where changes in leadership and management may have led to improvements in science achievement. This research aimed to critically examine how school leadership and management can impact student learning outcomes, focusing on the Bedouin community in the Arab sector in Israel. For this purpose, 400 teachers were surveyed from 20 different schools from Araba sector, and 50 teachers were interviewed. For quantitative analysis, demographic analysis, correlation, t-test, one-way ANOVA and PLS-SEM were used. However, for the qualitative analysis were conducted through thematic analysis. The findings of the study suggests that family and community (FAC), leadership practices (LP), learning and school excellence (LSE), management practices (MP) and school leadership (SL) have a positive and significant impact on the science achievement of the students in Bedouin community in the Arab sector in Israel. However, the effect of curriculum implementation does not have significant impact on the science achievement.

Keywords: Bedouin students, higher education, educational leadership, science achievement, leadership styles

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1. Introduction

In the Arab Bedouin community, school reform has prioritized the need for positive educational leadership. The complications and disciplinary actions implemented by the administration of these institutions over the past decade make this a need. Human resource development goals in the Bedouin population in the Arab world are being considered when educational programs are formulated (Shibli et al., 2013). However, due to their particular significance, reform has been considered crucial to the advancement of schools in the national interest. Arab society in Israel is composed of several distinct racial and religious

subgroups, including Christian Arabs, Druze Arabs, Muslim Arabs, and Bedouin Arabs, amongst others. Bedouins comprise a small part of Israel's overall Muslim community, accounting for 15% of the country's population.

Educational institutions are among the various organizations in the community. Education has been highly emphasised, and as a result, educational institutions have become increasingly influential (Budohi, 2014). A school can be characterized as a group in a certain location whose activities are systematically organized by principals to enhance teaching and learning abilities and attitudes toward students to achieve preset educational objectives or goals (Brzozowski, 2017). A school's principal plays a significant role in the institution's administration. Principal's different responsibilities and roles, as well as their ongoing monitoring of their teachers, greatly influence the level of involvement of teachers and student's academic outcomes (Budohi, 2014).

On the contrary, leadership is a complicated subject that philosophers, academics, and researchers have variously defined and described. Influencing the behaviour of a group of people toward a common goal is the foundation of leadership (Alanoğlu et al., 2020). There is an incentive for action from subordinates and the group leader. Leadership in the educational system might be defined as the capacity to accomplish goals with the support and cooperation of others (Alanoğlu et al., 2020). Nowadays, it is the principal's responsibility to highlight their work as transformative and instructive leaders. This is because a principal's effectiveness is measured in terms of their influence on the academic growth of their students. Most studies show a substantial association between the principal being the most influential person in implementing programs to contribute to effective curriculum and student achievement (Adeyemi & Bolarinwa, 2013). In education organizations, the most prevalent form of leadership implemented by management is based on the performance of students and teachers.

The Bedouin people are regarded as a subgroup within the Arab population. Bedouin is an Arabic word that translates to "desert" ("Bedouin", which comes from "Badia", which means desert). Nomadic tribes from the Arabian deserts, Syria, Iraq, Israel, Egypt, and Libya, as well as the urban populations of Politician, Algeria, and Morocco, are

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all included in this designation. The term "Bedouin" is not typically applied to the desert environment. They refer to themselves as Arabs or Urban people (Shibli et al., 2013). The Negev and the Galilee are the two primary regions where Bedouin people in Israel make their homes. Despite the vast disparities in topography between the two locations, Bedouins were able to make a living in each of these areas for a variety of reasons. Bedouin communities can be found throughout Upper Galilee (Shibli et al., 2013). An estimated 370,000 Bedouin people live in Israel, of which approximately 30% call the Negev their home, as the Central Bureau of Statistics (2019) reported.

The schools are the subsequent most important institution for national integration on a social, economic, and political level, following the National Assembly and the National Youth Service Corps. (Chandolia, 2020). This was demonstrated by reiterating the significance of unified schools, which can be found in the following sentence: In light of findings, Leithwood and colleagues discovered an empirical correlation between effective school leadership and increased academic achievement among students. The research, which uses in-depth case studies and extensive quantitative analysis, demonstrates that when studied separately, most school variables have the most significant influence on learning (Nguyen et al., 2015). When it comes to school-related elements that effect student learning, leadership is tied for second place, with classroom instruction as the most important.

School principals have a significant obligation to ensure the efficient administration of both their people and financial resources. They have to maximize the use of the few resources and ensure that the technique they use to manage them aligns with the school's goal and vision. To fulfil its mandate, the school must build various educational resources and correctly manage them (Obama et al., 2015). This will allow the school to continue its operations and assist the entire staff in guaranteeing their health and safety. One of the ways to ensure that teachers are effective in providing quality instruction is to provide them with educational resources. It included all human content as well as other operational requirements to simplify the teaching-learning process and make school administration easier (NTI, 2009), physical resources such as providing a safe and clean environment (Amadi, 2019), time resources such as procurement, development, and product mobility

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(Kumar & Aithal, 2020), and financial resources necessary for the smooth operation of a school. Physical resources include providing a safe and clean environment.

Human resources' primary function is to educate individuals and develop ways to motivate them to provide the types of accomplishments the organization expects from its employees (Boxall & Purcell, 2016). In addition to traditional educational materials, this source also features community-based and technological tools that can be used in the classroom. Even though it has harmed educational systems overall, the current economic slump has also presented chances to convert school education into a paradigm that is more durable and firmer (Hariri et al., 2016).

What exactly is leadership, and why is it so important in the administration of schools? Leadership, according to Northouse, is a process that involves an individual exerting influence over other people to accomplish shared goals. A person who guides a group of people, state, or nation is called a leader (Josanov-Vrgovic et al., 2014). Leadership consists of various transactional and transformative behaviours between leaders and followers. The authors argue that effective leadership requires a commitment to shared objectives and the capacity to motivate subordinates toward accomplishing those objectives (Atasoy, 2020). Leadership has been characterized in various ways, one of which is the process of social influence, by several different academics. Leadership, as defined above, is a social process that requires the exercise of influence on follower's actions and necessitates focusing group efforts on achieving a common goal.

From a more objective point of view, a 2014 study conducted by the Education Board Office and conducted by the Ministry of Education revealed that principal leadership is one of the hurdles confronting secondary schooling in rural areas across the Arab world. This research looked into the management practices of unity schools serving Israel's Bedouin community in the Arab sector. In particular, this research aimed to understand the predicaments and opportunities presented by the various leadership styles employed by principals in unification schools. The government of the Bedouin community in the Arab sector in Israel has made education reform, specifically improving school management through a unified approach, a high priority (Abubakar et al., 2018). Meanwhile, despite

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these challenges and approaches that have been following the management of these schools in the previous decade, insufficient research has been done examining both the causes and treatments, particularly from the perspective of the head of the government of these schools. For as long as there have been schools, principals have been tasked with running the day-to-day functions of their respective campuses (Caldwell & Spinks, 2022). Students may be disciplined or counselled by principals, curricular materials for teachers must be approved, and principals are accountable for ensuring that a school is a secure place for employees and pupils.

Principals who are truly effective in the twenty-first century will concern as much about their teacher's and student's academic growth as they do about the outcomes of standardized measures (Caldwell & Spinks, 2022). By becoming thoroughly familiar with all aspects of the educational system, principals can better keep an eye on day-to-day operations and respond to unexpected challenges (Beare, 2021). There is no difference between public and private schools regarding the responsibilities of an elementary, middle, or high school principal. According to the study's findings, leadership may be conceptualized as a leader's ability to keep follower's interest in them while delivering the goods or services that people have placed in their protection (Imhangbe et al., 2019). It would appear that a significant number of leadership notions and theories centre on the provision of services. It is important to note that the primary role of a leader is to look out for the best interests of the people, organization, institution, or country they represent. A school leader must possess certain professional qualities, such as honesty, the ability to empower others, inspiration, the ability to set a good example, and leadership skills, including foresight, vision, and the capacity to manage others through transformations, as well as a track record of success in the position themselves.

When bridging the gap between the school and its surrounding neighborhood, the principal is the go-to person for completing tasks. The principal's goal is to have everyone in the school, teachers and support staff, working together for the common good of the institution (Oyugi & Gogo, 2019). Northouse argues that leadership is the ability to influence others and guide them toward a common objective by using one's position of authority and reputation. Concern for social justice, compassion for the disadvantaged,

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dedication to the development of self-sufficiency, communication skills, the courage to take risks and make important decisions, the ability to achieve the desired result, faith in the capability of the people, and a belief in the ability of the people are all necessary qualities for effective leadership. An increasing body of literature suggests that 21st-century principals must provide strategic guidance in the classroom due to the effects of globalization and shifting educational standards (Bayliss, 2019). Principals are responsible for creating and implementing standardized curricula, assessing teacher's performance, tracking student's academic growth, soliciting and responding to parent's concerns, drafting and revising policies and procedures, managing the school's finances, recruiting and assessing teachers, and supervising the school's physical activities (Wirawan et al., 2019). The principal is crucial in establishing emergency protocols and school safety rules. As a coach and school leaders, individuals are expected to attend activities such as basketball games, performances, plays, parent conferences, and school board meetings (Fullan, 2021).

The principle is responsible for guiding and inspiring the entire school community to work together to realize the school's mission and vision. When it comes to supervising the classroom, the principal's job is one of the most stressful. This is a profession in which the compensation is inadequate concerning the demands placed upon the performer. However, the previous two decades have seen a dramatic increase in global connectivity and interdependence, making it imperative that today's educators focus on developing globally competitive students. Schools in Israel must implement a curriculum and pedagogy that prepares pupils to understand, participate in, and succeed in a global economy if they are to prepare the next generation of Israelis to be globally competitive (Halon, 2021). Yet, there is growing concern that students may be academically qualified but lack the emotional maturity to succeed in the workplace (Fullan, 2021). College and career readiness require students to be well-rounded in mind and character. To this end, good school leaders equip their students with the "soft skills" they will need to succeed in the corporate world of the future, including the ability to think critically, work together, and communicate effectively (Davies & Ellison, 2017). To reach these objectives, schools need principals skilled at leading, coaching, and shaping the culture of their institutions to create better learning environments for students.

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Over the previous few decades, the role of the principal had developed into one that was progressively more complicated to comprehend. The fall of central rules and the greater autonomy of schools have resulted in an expansion of the principal's responsibilities and a rise in the number of tasks and executive responsibilities that the principal is expected to manage (Zheng et al., 2017). Even though the principal is required to make decisions together with other members of the team and other consultative bodies, they are nevertheless held responsible for all of these decisions, as well as their implementation and the consequences of those choices. A principal of a modern school should have the designed to work of a successful influencer, the ability to appreciate the big perspective, and talent for getting their subordinates motivated about coming to work and contributing to the organization (Kalangi, 2021). In any case, ongoing reports on dissatisfaction, heavy burden, and overburden of school principals may show that a significant number of the current principals feel that they do not have the capabilities to satisfy the current guidelines. This kind of stress and pressure from students, parents, and society as a whole is also exerted on school principals, which accelerates the rate at which they reach burnout and, as a result, has an effect on the degree to which teachers are satisfied (Nir & Hameiri, 2014). Teachers are also subject to the same kind of stress and pressure from students.

Principals run their schools and arrange daily routines, syllabi, and staffing. They are responsible for ensuring that schools are conducive to learning for students of all ages. They establish educational goals and equip educators with tools to help them achieve them in the classroom (Saiti, 2015). It has been stated that the success of a school and its pupils can be directly tied to the quality of the leadership the school's principal provides. Specifically, it is widely acknowledged that the principal has a significant role in establishing the overall tone and atmosphere of the school (Dou et al., 2017). The principal's leadership style and capabilities impact teachers' outlooks, actions, and student outcomes in the classroom. Furthermore, multiple studies have shown that the principal's leadership style can, directly and indirectly impact students' academic achievement (Allen et al., 2015).

Some researchers classify the most common forms of principal leadership as bureaucratic, managerial, or educational. The bureaucratic head of the school runs things

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in a mundane and routine fashion without any innovative or creative direction. For starters, the overly bureaucratic principal is obsessed with paperwork and only wants to do what the Ministry of Education says. Second, the principal manager cares about the school's reputation and results and is responsible for managing the budget, supervising the faculty, and developing the academic program (McCarley, 2014). Third, there's the principal who cares about the well-being of kids and staff and is willing to do whatever it takes to make the school a place where learning and inspiration thrive. Others have categorized these approaches as transformational, rewarding, and avoiding. Many academics have expressed extreme interest in the transformational leadership approach. The transformational manager is characterized as someone attentive to the needs of his people activates their potential to address the difficulties at hand, and is thus seen by some as an efficient manager (Nadarasa & Thuraisingam, 2014). Idealistic influence, encouraging incentive, intellectual encouragement, and individualistic thought are the four pillars of a transformative manager. (a) Idealized Influence: This attribute reflects the transformative manager's conviction in their vision and mission. Employees look up to such a manager as a role model, and they praise his methods. Motivational incentive (b) a transformational manager sets the course, fosters teamwork and enthusiasm, and constantly pushes and encourages workers to reach goals. Besides encouraging commercial ventures and launching new initiatives, a transformational manager also comes up with fresh, novel ideas. A transformational leader will inspire his team to use their imaginations, research, and develop novel solutions.

A leader of the whole quality consistently motivates their team to look beyond conventional methods for resolving problems and instead pursue more creative alternatives. Seeing the potential in teamwork, considering the wants and requirements of people, and assisting them in being productive and successful are all hallmarks of transformational managers. A transformative manager in this situation is incredibly passionate about every one of their employees and caters to their individual needs and interests (Mette & Scribner, 2014). The concept of the transformational leader is often cited as a starting point for enhancing educational institution's infrastructures. The academic growth of teachers and the enthusiasm for school reform are both boosted by transformational principals. A transformational principal can create a productive

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hierarchical environment, increase the efficiency with which goals are achieved, and boost teacher satisfaction.

1.1. Statement of the problem

This dissertation investigates how principals' management and leadership styles in Bedouin schools in Israel's Arab sector impact their students' science performance from the perspective of Bedouin college science students. Specifically, the study sought to understand how the principal's different leadership and management approaches may have impacted the science performance of students in this community and to identify any areas where changes in leadership and management may have led to improvements in science achievement. This research aimed to critically examine how school leadership and management can impact student learning outcomes, focusing on the Bedouin community in the Arab sector in Israel. Effective educational leadership is further explored, adding to the existing body of literature and management in diverse cultural contexts by critically analyzing the existing literature and providing new empirical data on the topic.

1.2 Significance of the study

The study is significant because it will support the principal management in coping with the issues that are becoming increasingly prevalent daily in the educational sector. The discussion of the repercussions that act as a barrier between student's productivity and their motivation to learn and experience new things brings the value of the study to a higher level. It contributes to determining the most significant components of school principal leadership and management styles on the pupil's science accomplishment in the Bedouin community in the Arab sector in Israel. This community is located in Israel. This study serves as a road map for the administrative department and other sectors to improve the organizational environment by adopting a positive learning style and implementing procedures that enhance learning capabilities and motivate students. As a result of the high authority's involvement, the educational system in Arab countries probably suffers. This study supports recognizing the impact of school principal's leadership and management styles on the academic achievement of students interested in science in the Bedouin population in the Arab part of Israel.

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2. Materials and Methods

The mixed methods design was selected for this study as it allows for the integration of both qualitative and quantitative data, which can provide a more comprehensive understanding of the research problem. The benefits of using mixed methods design for this study outweigh the costs. The use of both qualitative and quantitative data can provide a more comprehensive understanding of the research problem and improve the validity of the study (Burns and Burns, 2008). Additionally, the flexibility of mixed methods design allows for adaptations to be made as needed based on the findings. While it may be more time-consuming and expensive, the benefits of the mixed methods design are worth the extra effort. The study sample for the research consisted of 400 participants in the quantitative part and 50 participants in the qualitative part.

3. Results

3.1 The Qualitative part:
Impact of school principal leadership and management styles on the pupils' science achievement

This was one of the main themes that came out during the interviews. School principal leadership and management styles significantly impact the academic achievement of pupils in general and in the subject of science in particular. The effect of school principal leadership and management styles affect students' scientific success, which is critical in Israel's Bedouin population, a neglected and disadvantaged minority group (Hermesh, Rosenthal & Davidovitch, 2020). This is because Bedouin pupils tend to perform lower than their Jewish classmates in science, and the quality of education they receive is affected by various variables, including their school personnel's leadership and management methods (Ayalon et al., 2019).

According to one of the participants.

"In my opinion the learning environment plays a major role in the learning of the students and one of the most important benefits offered by the leadership and management style is that it aids in effective setting of learning environment leading to higher performance and excellence by the students"

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According to Andriani, Kesumawati & Kristiawan (2018), school principals' leadership and management styles can substantially affect students' academic success, including in science. Effective leadership and management styles can improve instructor performance, increase student motivation, and encourage academic achievement. On the other hand, ineffective leadership and management approaches can result in a bad school atmosphere, poor instructor performance, low student enthusiasm, and low academic success (Heaven & Bourne, 2016). As a result, effective leadership and management styles that support educational success and pupil performance are critical for school principals.

Another participant stated that,

"The performance of the students in science from Bedouin community is very poor because of our own lack of interest in the science which affects the learning of the students, however, leadership and management style can effectively aid in building principles which are in interest with students' motivation and learning"

In the Bedouin community in the Arab sector in Israel, the impact of school principal leadership and management styles on pupils' science achievement is of particular importance. Bedouin pupils tend to perform lower in science compared to their Jewish peers, and the quality of education they receive is influenced by various factors, such as socio-cultural factors and the leadership and management styles of their school principals (Eyal, Da'as & Berkovich, 2021). Effective school principal leadership and management styles in the Bedouin community in the Arab sector in Israel can help overcome the challenges faced by Bedouin pupils and promote their academic achievement in science.

There are several leadership and management styles that school principals can adopt, each with different effects on pupils' science achievement. The most common leadership and management styles which have been observed from the responses of the participants include "authoritarian", "democratic", and "laissez-faire".

As one of the participants stated,

"Due to socio-economic issues, I think leadership styles which has strict principle and approach such as authoritarian leadership can aid in the implementation of principles and standards to enhance the learning of the student"

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The autocratic leadership style is distinguished by a hierarchical and centralized decision-making strategy, with the school principal demonstrating full control and power over every aspect of the school's operations. This personality type is frequently linked with strict discipline and high academic success standards (Baumann & Krskova, 2016). However, according to the results of Jarjoura (2016), autocratic leadership can contribute to poor teacher confidence, student motivation, and academic success, particularly in students from marginalised groups such as the Bedouin community in Israel's Arab sector.

Considering the leadership styles and their impact another participant stated that.

"The characteristics of the leadership approaches have different impact on student achievement for instance in the democratic leadership style taking opinions or feedbacks promotes a health learning environment while laissez-faire involves collaboration of different actors. Both approaches have limitations as well therefore different leadership and management styles should be incorporated for effective results"

The democratic leadership style is characterised by a participatory and collaborative approach to decision-making, with the school principal seeking input and feedback from teachers, pupils, and parents. This form of leadership is frequently linked with high levels of instructor morale, student motivation, and academic achievement (Shulhan, 2018). According to the results of Kaplan et al. (2022), democratic leadership can successfully encourage pupil achievement in science, particularly among students from disadvantaged groups such as the Bedouin community in Israel's Arab sector. Meanwhile, a hands-off approach to decision-making characterises the laissez-faire leadership style, with the school principal delegating most of the school's activities to teachers and other staff members. However, this style is frequently linked with poor levels of accountability and achievement in school (Baloch, 2023). According to the results of Gordon (2016), a laissez-faire leadership approach can contribute to poor pupil achievement in science, particularly among students from economically disadvantaged communities such as the Bedouin community in Israel's Arab sector.

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3.2 The Quantitative part:

Pearson's Correlation

There is a strong positive correlation between Learning and School Excellence and Science Achievement (0.518**). This suggests that schools that prioritize and achieve excellence in learning are more likely to have higher levels of science achievement. The implication is that schools need to place a strong emphasis on creating a culture of learning excellence to achieve high levels of science achievement (Armstrong, 2019). There is a moderate positive correlation between Curriculum Implementation and Science Achievement (0.157**). This indicates that effective implementation of the science curriculum is associated with higher levels of science achievement (Ly, Marsman. and Wagenmakers, 2018). The implication is that schools need to focus on effective implementation of the science curriculum to improve science achievement.

Furthermore, there is a weak positive correlation between Leadership Practices and Science Achievement (0.270**). This suggests that certain leadership practices may contribute to higher levels of science achievement (Ly, Marsman. and Wagenmakers, 2018). The implication is that school leaders need to focus on developing effective leadership practices to improve science achievement. However, it is found that there is a strong positive correlation between Family and Community and Curriculum Implementation (0.592**) and Science Achievement (0.320**). This suggests that involving families and the community in curriculum implementation and science education can have a positive impact on science achievement (Armstrong, 2019). The implication is that schools need to actively involve families and the community in science education and curriculum implementation to improve science achievement.

In addition to, there is a moderate positive correlation between Management Practice and Science Achievement (0.278**). This indicates that effective management practices may be associated with higher levels of science achievement. The implication is that schools need to focus on developing effective management practices to improve science achievement (Schober, Boer and Schwarte, 2018). On the other hand, it is also found that there is a weak positive correlation between School Leadership and Science Achievement (0.389**). This suggests that certain leadership practices within the school

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may contribute to higher levels of science achievement (Armstrong, 2019). The implication is that school leaders need to focus on developing effective leadership practices within the school to improve science achievement.

Table 1 Correlation

Correlations

		1	2	3	4	5	6	7
1	Learning and School Excellence	1	.546**	0.073	.434**	.197**	.110*	.518**
2	Curriculum Implementation	.546**	1	.143**	.592**	.241**	-0.062	.157**
3	Leadership Practices	0.073	.143**	1	.235**	-0.076	-0.039	.270**
4	Family and Community	.434**	.592**	.235**	1	.181**	0.051	.320**
5	Management Practice	.197**	.241**	-0.076	.181**	1	.318**	.278**
6	School Leadership	.110*	-0.062	-0.039	0.051	.318**	1	.389**
7	Science Achievement	.518**	.157**	.270**	.320**	.278**	.389**	1

The correlations suggest that a range of factors contribute to pupils' science achievement in the Bedouin community in the Arab sector in Israel. Effective curriculum implementation, leadership practices, management practices, and involving families and the community in science education are positively associated with science achievement. These findings have significant implications for schools in the Bedouin community in the Arab sector in Israel. School principals need to prioritize and achieve excellence in learning to improve science achievement. Effective teaching and learning strategies, adequate resources, and fostering a culture of learning excellence are crucial to achieving this. Principals need to develop effective leadership practices that foster a positive school climate and promote the teaching and learning of science. This includes creating opportunities for pupils to engage with science outside of the classroom, such as science clubs and field trips.

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Effective management practices are associated with higher levels of science achievement. Schools need to implement effective management practices that facilitate the implementation of the science curriculum, provide necessary resources, and create a positive school climate that promotes the teaching and learning of science. Involving families and the community in science education is important for improving science achievement. Schools need to develop partnerships with families and the community to create a supportive and inclusive learning environment that encourages pupils' engagement with science. Teachers and school leaders should collaborate with families and the community to create opportunities for pupils to learn about science outside of the classroom.

The study highlights the importance of effective science education in the Bedouin community in the Arab sector in Israel. By implementing effective teaching and learning strategies, effective management practices, and involving families and the community in science education, schools can improve pupils' science achievement. School principals and leaders should take note of these correlations and develop strategies that focus on the effective implementation of science education to improve science achievement in the Bedouin community in the Arab sector in Israel.

4. Discussion

The principal's leadership characteristics play a significant role in the determination of school excellence in science. Some of the leadership characteristics that a principal should possess include: first visionary leadership; second, instructional leadership; third, collaborative leadership; fourth, transformational leadership and fifth, data-driven leadership (Chen et al., 2022)

Visionary leadership characteristics is a prerequisite to creation of successful science program. A principal with a clear vision in mind can only direct the students in the right directions. Moreover, his vision would motivate him to achieve his goals in a timely manner. Whereas his instructional leadership ability pushes him to provide more facilitation in teaching and learning. It is found that principals with instructional leadership is far better than normal principals in improvement of science fields in schools.

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Collaborative leadership, on the other hand, is helpful in the creation of a culture of collaboration among the faculty members and administration. Principal must motivate collaboration between different department's i.e science and Mathematics. Along with it, Transformational leadership is all about motivating the faculty to achieve goals and promote vision of science among students (Chen et al.,2022)

Lastly, data driven leadership engages in making use of data to make decision on how to improve students' outcomes. A principal who has capacity to analyze and interpret data on student performance will ensure necessary adjustments to achieve excellence in science.

5. Conclusions

This study investigated a population of Bedouin community living in Israel with an aim to study how science teachers, in the Bedouin community, perceive the school principal leadership and management style and examine how science teachers, in the Bedouin community, perceive the impact of school principal leadership and management styles on the pupils' science achievement. According to main findings, the dominant leadership style of school principals was charismatic in nature and weakest style was Transactional leadership. It was found that school principals had levels of availability and accessibility along with having proper communication management. The school principals also experienced a high level of decision making especially in case science achievements. They embarked great achievements in managing science and pushing it so that school excel in science subjects. Generally, school principals provide priority to employee care skills but hereby they prefer to science achievements because they know it as modern requirement. They believe they could develop progressive and supportive environment to students. This must be primary job of principals to advance their students in science and technology backgrounds in this era whereby one feels handicap without science and technology knowledge. Additionally, the findings revealed that principal's ability to meet challenges and address them so that students study do not get disturbed. For instance, during covid-19 skills and competencies were found to be more enhanced of the principals of the schools. Scholars have written research articles on it because they found it worthy to be noted.

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