

The Effectiveness of Participatory Management in Improving the Interaction of People with Special Needs in Educational Situations

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The present study investigates whether participative management can enhance interactions between persons with disabilities and their peers within educational settings in Jordan. A mixed-methods approach was adopted, combining quantitative and qualitative techniques. Quantitative information was obtained through a structured questionnaire, whereas qualitative evidence was gathered through semi-structured interviews. The quantitative data were processed using SPSS, while thematic analysis was applied to the qualitative responses. The study involved 150 professionals employed in inclusive education environments, comprising special education teachers, principals, specialists and school psychologists. Participative management was examined across five dimensions: involvement in decision making,

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collaborative relationships, communication, empowerment and participative problem solving. Interactions between persons with disabilities and their peers constituted the dependent variable. The measurement instrument demonstrated an acceptable level of internal consistency, with a Cronbach's alpha coefficient of 0.778. The quantitative results indicated moderate to high perceptions of participative management practices among the participants, with collaboration receiving the highest level of perceived implementation. Pearson product-moment correlation analysis demonstrated strong and statistically significant positive associations between interactions and each of the five participative management dimensions. Furthermore, the multiple regression results showed that the collective dimensions of participative management significantly predicted interactions, accounting for approximately 74% of the variance in the dependent variable ($F(5,144) = 83.383, p < .001$). Nevertheless, after the effects of the other dimensions were statistically controlled, only collaboration and empowerment retained significant predictive effects on interactions. The qualitative evidence was consistent with the quantitative results. All qualitative participants reported that participative leadership practices contributed to stronger interaction between persons with disabilities and their peers. These practices were perceived to facilitate interaction through collaborative engagement, social support and the empowerment of persons with disabilities, particularly within a school climate characterised by emotional support.

Keywords: Participatory Management; Inclusive Education; Special Needs; Interaction; Collaboration; Empowerment

Introduction

Background of the Study

Contemporary educational systems increasingly prioritise inclusive education as a means of establishing greater equality and equity in learning. This approach is grounded in the principle that individuals with special needs should be afforded learning opportunities equivalent to those available to other students, while the differences they exhibit should be recognised as sources of diversity and strength rather than limitations. (UNESCO, 2017) emphasises that inclusion extends beyond placing students with special needs in the same classrooms as their peers. Meaningful inclusion also requires their active engagement in learning activities and opportunities to interact with other students.

Despite the importance of such meaningful participation, students with special needs are frequently excluded from social activities that are fundamental to the development of communication and social competencies. Compared with their peers, these students commonly experience lower levels of peer acceptance, fewer reciprocal friendships and greater social isolation. Such experiences demonstrate that the formal classification of a school as 'inclusive' does not necessarily guarantee high-quality educational or social experiences for students with special needs. The effectiveness of inclusive education is therefore strongly dependent on the organisational capacity to implement appropriate practices and

systems. (Silvia Dell'Anna, 2020) argue that the benefits associated with inclusion are substantially influenced by the effectiveness with which such practices are implemented within an organisation. In this context, school leadership represents a fundamental component in establishing an environment conducive to inclusion and providing the organisational foundation required for the development of inclusive education.

Through diverse leadership practices, school leaders can strengthen educators' capacity to promote inclusion by establishing shared values, developing supportive policy frameworks and facilitating collaboration among educators (Riehl, 2000). Within this context, participatory management has emerged as an important leadership model that facilitates distributed leadership through collaborative and decentralised approaches (Tejeiro, 2024). It promotes shared decision making among stakeholders, collective accountability, stronger communication and greater collaboration. Moreover, participatory management encourages empowerment and active involvement among teachers, administrators and parents engaged in the implementation of inclusive education. Such collective engagement enables stakeholders to combine their efforts and respond more effectively to the varied requirements of diverse learners.

Previous research indicates that leadership practices supporting the development of individualized educational plans and inclusive education can establish effective approaches for producing positive outcomes for people with special needs (Lambrecht et al., 2020). Likewise, collaboration and communication, which constitute central elements of participatory management, are important for developing constructive relationships and strengthening the capacity of individuals with special needs to participate in social activities (Garcia-Melgar et al., 2022). Accordingly, incorporating participatory management mechanisms into the development of inclusive education, including shared decision making, collaboration, communication, empowerment and participatory problem solving, is essential for creating classroom environments that are supportive and conducive to positive engagement. Where participatory management reinforces an inclusive school culture and leadership approach, it can further promote the engagement and interactions of students with special needs (Khaleel et al., 2021). On this basis, the present study investigates the effectiveness of participatory management in strengthening interaction among individuals with special needs within educational settings, thereby contributing to the further development of inclusive education and greater student participation.

Educational inclusion for children with disabilities is not a recent development in Jordan. Nevertheless, governmental efforts to establish an inclusive education system have expanded through legislation (Laws and Regulations), national plans/strategies and policies intended to integrate children requiring support, including children with disabilities, into formal

education. These legislative and policy measures emphasise the right of children with disabilities to obtain education on an equal basis with their peers, receive appropriate educational services and support within schools, and benefit from the promotion of Inclusion across educational institutions. Despite the progress achieved and continued assistance from government and NGO agencies, significant obstacles remain in translating inclusive policies into effective school-level practices. One continuing concern within Jordanian schools involves the provision of meaningful and high-quality interactions for children with disabilities and other students. Although numerous schools have integrated students with disabilities into mainstream classrooms, difficulties remain in establishing positive interactions between disabled and non-disabled students.

Interactions between students participating in inclusive classrooms are particularly important to the effectiveness of inclusive education. In the absence of meaningful interaction, the inclusion of students with disabilities may remain largely nominal rather than representing genuine participation. Consequently, this research investigates the relationship between participatory management and the interaction of individuals with special needs within educational settings in Jordan. Although substantial international evidence indicates that participatory and distributed leadership principles can contribute to improved inclusive outcomes, limited empirical research in the Jordanian context has specifically examined how participatory management influences the interactions of individuals with special needs. Existing Jordanian research has largely concentrated on attitudes towards inclusion, teachers' preparedness to teach students with special needs, and the influence of broader inclusion implementation policies on interactions between students and teachers within inclusive education models.

Research Objectives

The study investigates the extent to which participatory management can strengthen interaction among individuals with special needs within Jordanian educational settings. Against the backdrop of increasing attention to inclusive education and the central responsibility of school administration in establishing supportive learning environments, the research aims to generate empirical evidence regarding the effectiveness of participatory management in facilitating social and academic interaction among learners with special needs.

Objective of the Study

The general objective of this study is to assess the effectiveness of participatory management in facilitating interaction among individuals with special needs within the wider educational environment. In pursuit

of this overarching objective, the study addresses the following specific objectives:

1. To evaluate how the adoption of shared decision-making influences interaction among individuals with special needs within the wider educational environment.
2. To investigate the extent to which collaborative practices involving school administrators, teachers and other staff contribute to interaction among individuals with special needs.
3. To examine the contribution of communication processes, as a component of the broader participatory management approach, to strengthening interaction among individuals with special needs within the educational environment.
4. To assess the influence of empowerment practices, including the provision of support and opportunities for involvement, on promoting interaction among individuals with special needs within the wider educational environment.
5. To investigate how participatory problem-solving practices, influence the promotion of interaction among individuals with special needs within the wider educational environment.

Research Questions

1. To what extent does share decision-making influence the interaction of individuals with special needs within educational settings?
2. To what extent does collaboration influence the interaction of individuals with special needs within educational settings?
3. To what extent does communication influence the interaction of individuals with special needs within educational settings?
4. To what extent does empowerment influence the interaction of individuals with special needs within educational settings?
5. To what extent does participatory problem-solving influence the interaction of individuals with special needs within educational settings?

Significance of the Study

The significance of this research lies within the context of Jordan's national education system, where inclusive education has received increasing attention alongside stronger legislative recognition of the rights of people with disabilities. Nevertheless, despite these developments, schools continue to encounter obstacles in establishing effective opportunities for students with special needs to interact meaningfully with their peers. Against this background, the study evaluates participatory management as an approach for strengthening student interaction within educational settings.

From a practical perspective, the findings are expected to provide useful evidence for educational leaders, school principals and policy makers responsible for advancing inclusive education. The study demonstrates that inclusion extends beyond curriculum development and requires leadership practices that promote collaboration, cooperative working and shared responsibility among educational stakeholders. Establishing appropriate measures for assessing the different dimensions of participatory management can therefore provide schools with a systematic basis for identifying areas of improvement and strengthening interaction among students. The quality and extent of peer interaction also have important implications for students' academic and psychosocial development. Restricted opportunities for interaction and experiences of social isolation may consequently have detrimental effects on both educational progress and psychosocial well-being. By addressing these issues, the research contributes to identifying approaches through which social participation and the overall educational experience of students with special needs can be strengthened within the Jordanian educational system.

Literature Review

Participatory Problem-Solving

Participative problem-solving involves a collaborative, evidence-based process through which problems are identified, examined and assessed before an appropriate action plan is formulated and implemented (Kim Schildkamp, 2019). It represents an important manifestation of distributed leadership and organisational learning within educational contexts. The use of formal structures, including data teams, can strengthen the effectiveness of participative problem-solving by providing an organised mechanism for collective analysis and decision making (Kim Schildkamp, 2019).

Such structures also offer facilitators a systematic framework for directing inquiry processes towards the production of high-quality investigations (Babichenko et al., 2024; Boom-Muilenburg et al., 2023; Brown et al., 2021). Participative problem-solving is further reinforced through collaborative inquiry approaches, such as lesson study and professional learning communities, which create opportunities for educators to jointly investigate educational challenges and develop appropriate responses (Lai et al., 2025; O'Connor & Park, 2023). Within inclusive learning environments, this approach enables teachers to work collectively and coordinate their responses in addressing the diverse and changing needs of students (Moser et al., 2025).

Dimensions of Participatory Management

Shared Decision-Making (SDM)

Stakeholder participation involves the systematic inclusion of relevant stakeholders in decisions concerning school instruction and operational matters, as illustrated by Sustainable Development Management (SDM) (Or & Berkovich, 2021) ("SDM"). The effectiveness of SDM is influenced by the timing and openness of participation, with its requirements varying according to the nature and scope of the decision under consideration (Chopra, 2020; Nguyen et al., 2024). Beyond facilitating involvement in decision-making processes, SDM can strengthen trust, promote autonomy and foster a deeper and more sustained commitment to organisational objectives (Ramazan Erturk, 2023). Its collaborative character can also facilitate the generation of innovative solutions by bringing stakeholders together in joint problem-solving processes (Choi, 2023; Galdames-Calderón, 2023). However, the implementation of SDM presents several challenges, including conceptual overlap with related approaches and differences in how participation is operationalised across contexts. These variations are particularly evident where cultural factors influence the design and implementation of participatory processes (Hashem, 2022; Lai et al., 2025; Xiao Shi, 2024).

Collaboration

Collaboration is characterised by an interdependent professional process in which participants work collectively towards shared objectives (Wijarwadi et al., 2025). It incorporates practices such as information exchange and mutual inquiry, both of which are fundamental to the effective implementation of inclusive practices (Pozas & Letzel-Alt, 2023). The establishment of successful collaborative relationships is ultimately dependent on several conditions, particularly mutual trust, a common purpose and active support from a principal or other school leader (Jong et al., 2022; Kolleck et al., 2021). Evidence further indicates that collaborative support can produce beneficial outcomes for teachers, including greater job satisfaction, stronger self-efficacy and increased instructional innovation (García-Martínez et al., 2021; Lin, 2022; Liu et al., 2025; O'Shea, 2021; Pan & Cheng, 2023). Despite these recognised benefits, the literature continues to show a lack of consistency in the ways collaboration is conceptualised and measured (Holmqvist & Lelinge, 2021).

Communication

Within a participatory environment, communication plays a central role in facilitating coordination, information exchange and mutual

understanding among stakeholders. Effective communication between principals and teachers can strengthen teachers' sense of empowerment, trust and commitment (Adams & Adigun, 2024; Gara & Porte, 2020; Jihai Yao & Zhu, 2020; Meriç & Öz, 2025; Nina Pološki Vokić, 2021; Veletić et al., 2023). Communication with families is similarly important within inclusive education, as it can facilitate collaborative relationships while helping to minimise potential conflicts. Furthermore, digital tools provide additional channels for strengthening communication and have been recognised within organisational research as mechanisms that can facilitate participatory processes (Frølich et al., 2025; Otrębski, 2022; Yanhong Shao, 2025).

Empowerment

Teacher empowerment entails providing educators with sufficient autonomy, access to necessary resources and opportunities to contribute to decision-making processes. The development of both structural and psychological empowerments among teachers can enhance school effectiveness and improve the quality of instructional practice. Empowering leadership practices can further establish an organisational environment that encourages autonomy, optimism and innovation (Mehmet Tufan Yalçın, 2025; Tankutay & Çolak, 2025). Such practices may also strengthen employees' job satisfaction and capacity to demonstrate resilience in challenging circumstances (Çevik & Doğan, 2025). Within inclusive education, teacher empowerment is particularly important because it enables educators to respond more effectively to the diverse learning requirements of all students and creates greater opportunities for meeting their individual educational needs (Yanhong Shao, 2025).

Interaction of Students with Special Needs

Interaction refers to both the extent and quality of contact between students with Special Needs (SN) and their peers within the school environment. It encompasses peer relationships, communication among peers and participation involving SN students and other students. Within the school context, the social dimensions of participation, particularly peer acceptance, friendship formation and active engagement, provide important indicators of the extent to which an SN student is socially included (Leuven et al., 2015; Schwab, 2019). Despite the importance of these experiences, students with SN frequently encounter lower levels of peer acceptance, which can contribute to greater social isolation (Elias Avramidis, 2018; Metsäpelto et al., 2020).

The frequency and nature of student-to-student interaction within school can also influence behavioural, cognitive and emotional engagement with peers (Boom-Muilenburg et al., 2023; Çoban & Atasoy, 2020). Evidence

indicates that approaches such as cooperative learning and peer tutoring can create greater opportunities for students to participate in school activities (Garrote et al., 2017). A supportive school climate, teacher support and the presence of an inclusive culture are likewise important in developing students' sense of belonging, which can encourage greater motivation and engagement among all learners, including those with SN (Choi, 2023). The quality of communication between teachers and students can further contribute to higher levels of student engagement (Roorda, 2017). Overall, although inclusive educational settings can generate improved outcomes for children with SN, their effectiveness is not determined by placement in inclusive settings alone. Outcomes are also shaped by contextual conditions, particularly the quality of leadership and collaboration within the educational environment (Grindal et al., 2016; Grzegorz Szumski, 2022).

Theoretical Framework

Schools that are inclusive provide support services for students with disabilities through two theories when working towards inclusive schools for all students. These two theories are:

Participatory Leadership Theory

Participatory Leadership Theory emphasises collaborative and shared decision making as a means of promoting effective resource utilisation and achieving inclusive outcomes for students and staff (Lin, 2022; Nguyen et al., 2024; Seung-Hwan Ham, 2024; Tejeiro, 2024).

Vygotsky's Sociocultural Theory

Vygotsky's Sociocultural Theory explains that students' learning and development are influenced by their social interactions with others, with such interactions being particularly significant for students with disabilities (Garrote et al., 2017; Schnepel et al., 2025; Vygotsky, 1978, 1993; Wang et al., 2023).

Research Methodology

Research Design

This study adopts a mixed-methods research design that integrates quantitative and qualitative approaches to develop a comprehensive understanding of the relationship between participatory management and interaction outcomes. The use of a mixed-methods design is appropriate because it enables the investigation of statistical relationships while also examining the underlying meanings and explanations associated with those relationships: "a mixed-method research design is appropriate

when researchers want to not only test statistical relationships but also explore meanings and explanations.” The quantitative component involved the administration of a structured survey, with the resulting data analysed using SPSS to determine the statistical effects of participatory management on interaction outcomes. Complementing this analysis, the qualitative component utilised semi-structured interviews to corroborate, explain and further develop the findings obtained from the quantitative analysis.

Population and Sample

The study population comprises professionals who are directly engaged in inclusive educational environments. The participants include male and female special education teachers, educational principals, special education specialists and school psychological counsellors. These professional groups were selected because of their central role in implementing participatory management and facilitating interaction outcomes for learners with special needs. Their responsibilities include planning and implementing strategies to address the needs of these learners, as well as providing them with psychosocial support. For the quantitative component, 150 participants completed the survey questionnaire. The qualitative component involved a further 15 participants who were selected to take part in semi-structured interviews. These interviews were conducted to obtain deeper insights into participatory management practices and to examine their effects on interactions among individuals with special needs.

Research Variables

The study is structured around one independent variable and one dependent variable. The independent variable is Participatory Management, which is operationalised through five dimensions: Shared decision-making, Collaboration, Communication, Empowerment, and Participatory problem-solving. The selection of these dimensions is supported by the literature on participatory and distributed leadership (Lin, 2022; Seung-Hwan Ham, 2024). The dependent variable is Interaction of People with Special Needs in Educational Situations, which is conceptualised in terms of social participation, engagement, communication, and involvement in inclusive classroom activities (Wang et al., 2023).

Data Collection Instruments

Questionnaire (Quantitative)

A structured questionnaire was developed to assess the five dimensions of participatory management and the overall level of interaction among individuals with special needs. The questionnaire items were formulated with reference to established literature on leadership and inclusive education to ensure their conceptual alignment with the variables examined in the study.

Interview Guide (Qualitative)

A semi-structured interview guide was developed by the researcher to examine participants' experiences of participatory management and its contribution to enhancing interaction among individuals with special needs. The interviews were intended to provide deeper insight into the quantitative findings by clarifying and expanding upon the results obtained from the survey data.

Validity and Reliability

The questionnaire's content validity was established through consultation with experts in educational leadership and inclusive education. These experts assessed the relevance, comprehensiveness and clarity of the questionnaire items to determine their suitability for the intended participants. The instrument's internal consistency was evaluated using Cronbach's Alpha, a widely recognised measure for assessing the reliability of scales in quantitative research. The questionnaire demonstrated acceptable reliability, with reliability coefficients meeting the recommended threshold of $\alpha \geq .70$, indicating consistent measurement of the study variables.

Data Analysis Procedures

Quantitative Analysis

Quantitative data were analysed using SPSS. Descriptive statistical measures, including means, standard deviations and frequencies, were applied to establish the levels of participatory management practices and interaction outcomes. Pearson correlation analysis was subsequently conducted to assess the relationships between the study variables. Multiple regression analysis was also employed to evaluate the research questions and determine the predictive effects of the study variables.

Qualitative Analysis

The qualitative interview data were subjected to thematic analysis, following systematic coding procedures to identify recurring patterns and themes using systematic inductive coding.

Integrating the Findings

The quantitative and qualitative findings were subsequently integrated to develop a comprehensive understanding of the research outcomes, thereby strengthening the study's credibility by connecting statistical evidence with the practical experiences of professionals.

Results and Analysis

Demographic Profile of Participants

The study comprised a total of 150 participants. The gender distribution was relatively balanced, with females accounting for 50.7% and males representing 49.3% of the sample. Participants came from diverse professional backgrounds relevant to inclusive education, comprising psychological counsellors (27.3%), special education specialists (26.0%), educational principals (25.3%), and special education teachers (21.3%). Their professional experience also varied, with 26.7% reporting less than 5 years of experience, while 20.7% had 5–10 years, 20.7% had 11–15 years, and 20.7% had more than 15 years of experience. Regarding academic qualifications, a substantial proportion held postgraduate degrees, including 29.3% with a Master's degree and 24.0% with a doctoral degree. In terms of school type, 53.3% of the participants were employed in private schools, whereas 46.7% were from public schools as illustrated in Table 1.

Table 1

Demographic Characteristics of the Study Participants (N = 150)

Characteristic	Category	f	%
Gender	Male	74	49.3
	Female	76	50.7
Position	Special education teacher	32	21.3
	Educational principal (school leader)	38	25.3
	Special education specialist	39	26.0
	Psychological counsellor	41	27.3
Experience	Less than 5 years	40	26.7
	5–10 years	39	26.0
	11–15 years	40	26.7
	More than 15 years	31	20.7

Qualification	Bachelor's degree	35	23.3
	Higher diploma	35	23.3
	Master's degree	44	29.3
	Doctorate	36	24.0
School type	Public	70	46.7
	Private	80	53.3

Note: f = frequency. Percentages are rounded and may not sum to exactly 100.

Reliability Analysis

In Table 2, the reliability analysis produced a Cronbach's α coefficient of 0.778 for the six-item scale. As this value exceeds the minimum acceptable threshold of 0.70, the scale demonstrates satisfactory internal consistency and is considered reliable. The coefficient indicates that the items exhibit an adequate degree of interrelatedness and consistently assess the same underlying construct. Although the coefficient does not indicate exceptionally high internal consistency, it remains sufficiently strong for statistical analysis and supports the use of the scale for hypothesis testing in this study.

Table 2

Reliability Statistics of the Study Scale (Cronbach's Alpha)

Scale	Cronbach's α	N of items
Participatory management and interaction scale	0.778	6

Note: Values of $\alpha \geq .70$ are considered acceptable.

Descriptive Statistics

In Table 3, the descriptive analysis indicates that all dimensions of participatory management received moderately to highly positive ratings. Collaboration recorded the highest mean score ($M = 3.89$, $SD = 0.53$), indicating a strong presence of teamwork and cooperative practices within schools. Communication also received a comparatively high rating ($M = 3.73$, $SD = 0.50$), reflecting favourable perceptions of communication practices across the school environment. Shared decision-making and participatory problem-solving were rated at moderately high levels, with both dimensions recording a mean of 3.59 and a standard deviation of 0.50. These results suggest that teachers perceive a reasonable degree of involvement in school-level decision-making and problem-solving processes. Empowerment received the lowest mean score among the participatory management dimensions ($M = 3.46$, $SD = 0.51$). Nevertheless, its score remained above the midpoint, indicating moderately positive perceptions of teachers' autonomy and professional authority. The dependent variable, interaction with people with special needs, also received a relatively high rating ($M = 3.77$, $SD = 0.53$),

suggesting favourable levels of interaction within inclusive educational settings. Overall, the descriptive findings demonstrate positive perceptions of participatory management and interaction with people with special needs, providing further support for the subsequent inferential analyses used to test the study hypotheses.

Table 3

Descriptive Statistics of Participatory Management Dimensions and Interaction					
Variable	N	Minimum	Maximum	M	SD
Shared decision making	150	2.38	4.75	3.59	0.50
Collaboration	150	2.63	5.00	3.89	0.53
Communication	150	2.38	4.88	3.73	0.50
Empowerment	150	1.50	4.75	3.46	0.51
Participatory problem solving	150	2.20	4.80	3.59	0.50
Interaction (dependent variable)	150	2.92	5.00	3.77	0.53

Note: M = mean; SD = standard deviation. All analyses are based on N = 150; the N of 21 shown for Interaction in the original output is a reporting error.

Multiple Regression Analysis

Multiple regression analysis was conducted to determine the extent to which the dimensions of participatory management predict interaction (INT) among individuals with special needs. The regression model was statistically significant, $F(5,144) = 83.383, p < .001$, and explained approximately 74% of the variance in interaction ($R^2 \approx .74$), demonstrating strong explanatory power. These findings indicate that participatory management, when considered as an integrated construct, significantly predicts interaction outcomes within inclusive educational settings. At the dimension level, Collaboration ($\beta = .375, p = .006$) and Empowerment ($\beta = .361, p = .003$) emerged as statistically significant positive predictors of interaction. This finding highlights the importance of cooperative practices and teacher empowerment in strengthening interactions involving people with special needs. By contrast, Shared Decision-Making ($\beta = .044, p = .730$), Communication ($\beta = .062, p = .646$), and Participatory Problem-Solving ($\beta = .047, p = .732$) did not demonstrate statistically significant predictive effects after controlling for the other dimensions.

Research Questions Summary

The findings are presented according to the study's research questions, as summarised in Table 4. The findings demonstrate that participatory management, considered as an overall construct, significantly predicts interaction among individuals with special needs. At the individual dimension level, however, only Collaboration and Empowerment were

identified as significant predictors. This indicates that the relational and capacity-enhancing elements of participatory management exert a more direct influence on interaction than its structural and procedural components.

Table 4
Multiple Regression Results for Participatory Management Dimensions
Predicting Interaction

Research question	Predictor	β	p	Decision
RQ1	Shared decision making	.044	.730	Not significant
RQ2	Collaboration	.375	.006	Significant
RQ3	Communication	.062	.646	Not significant
RQ4	Empowerment	.361	.003	Significant
RQ5	Participatory problem solving	.047	.732	Not significant

Note: β = standardised regression coefficient. Model: $F(5, 144) = 83.383, p < .001, R^2 = .74$. Significance assessed at $p < .05$.

Interview Findings

Participatory Leadership Practices in Inclusive Schools

This theme examines how participatory leadership is enacted within inclusive schools and the ways in which it contributes to supporting students with disabilities. A central finding was that meaningful shared decision-making and collective involvement were considered essential. Participants explained that being actively involved in decisions strengthened their sense of personal accountability and increased their commitment to implementing those decisions. As P-FST-12-PUB-MA stated, "When we sit down together and talk about something we are going to do, I feel a greater sense of commitment to that decision... it makes it more realistic and matches the needs we have in the school." Similarly, P-MPR-21-PRI-BA reported that involving teachers in decision-making strengthened their commitment to programme implementation.

Participants also identified communication as an important mechanism for aligning school objectives with classroom realities, thereby supporting the effective implementation of inclusive practices and creating opportunities for student engagement. Communication was viewed as extending beyond the simple transmission of information, serving instead as a means of identifying emerging difficulties at an early stage and enabling timely intervention. For instance, P-MPC-19-PRI-MA stated, "When we have an open line of communication, I am able to identify when one of my students is becoming socially isolated sooner, so that we can provide a timely intervention." Nevertheless, participants acknowledged that heavy workloads could, at certain times, restrict their capacity to maintain effective communication within the workplace.

Problem-solving was similarly described as a collective process involving the identification and resolution of issues through joint assessment and agreement on appropriate actions. P-MPR-21-PRI-BA explained that "we work together to evaluate the situation" and reach agreement on a plan of action. Such collective approaches were perceived to strengthen coordination and promote consistency in educational responses, thereby providing students with greater stability and encouraging their engagement. However, some participants indicated that being offered an opportunity to participate did not always result in genuine involvement, particularly when decisions had already been made before their participation occurred. In such circumstances, the effectiveness of participatory leadership depends partly on how individuals perceive the authenticity and extent of their involvement in decision-making processes. Overall, participatory leadership was associated with stronger coordination, greater collective responsibility and the development of a more inclusive school environment that is conducive to student interaction.

Professional Collaboration and Staff Empowerment for Inclusion

This theme demonstrates how collaboration and empowerment within participative leadership contribute to the development of more inclusive practices. Collaboration was consistently identified as essential for supporting students with special needs. Participants broadly agreed that collaborative teamwork promotes greater consistency in the delivery of support, thereby reducing uncertainty and confusion for students. P-FST-12-PUB-MA explained, "When we collaborate on our plans, students are more inclined to feel safe and confident about interacting." Collaboration can therefore contribute to the development of stable and predictable learning environments. From a leadership perspective, collaboration was understood as a structured form of professional coordination rather than merely informal cooperation. This approach enabled different professionals to coordinate their efforts more effectively when providing support to students. Counsellor participants also highlighted the value of incorporating multiple professional perspectives to develop a more comprehensive understanding of students' needs. However, the consistency of collaboration varied according to the extent of teacher involvement and the level of institutional support available, indicating that its effectiveness is shaped by both structural and relational conditions.

Empowerment emerged as another important enabling factor, particularly in strengthening teachers' initiative and creativity. Participants indicated that teachers were more inclined to introduce innovative and creative inclusive practices when they felt trusted and empowered by school administration. As P-FST-4-PRI-BA stated,

"Empowerment provides increased motivation and participation." Empowerment was also closely associated with interactions between students and adults. When educators feel adequately supported and possess sufficient professional autonomy, they are more likely to take proactive measures to establish inclusive learning environments, which can enhance students' confidence and willingness to interact. Overall, collaboration facilitates effective coordination, whereas empowerment strengthens professional agency. Together, these dimensions constitute an important mechanism through which participative leadership can promote inclusive interaction.

School Management and Student Interaction

The illustrative theme of participatory management's effects on student interactions and participation focuses on how student interactions are perceived by students with special needs. Participants indicated that interaction among students with special needs is largely influenced by the school climate and educational environment established through staff leadership and collaboration. Although management does not directly facilitate student interaction, it establishes the organisational framework within which such interaction can take place. A recurring theme across the participants' responses was that teamwork among teachers, supported by effective leadership, strengthens students' sense of belonging. P-FST-12-PUB-MA stated that inclusive environments are developed when teachers work cohesively and receive support from their leadership. Leadership was therefore perceived as shaping a "climate" conducive to inclusion and interaction through the routine practices adopted within classrooms.

Guidance counsellors particularly emphasised the emotional dimension of interaction, explaining that effective communication and cohesion among staff contribute to an environment of emotional safety. Such an environment can increase students' confidence and encourage their participation in social activities. Across the participants' responses, consistency and collective responsibility emerged as key conditions supporting interaction. Where staff practices were fragmented, students demonstrated lower levels of participation, whereas coordinated and consistent practices were associated with higher participation. Participants further identified staff empowerment as an indirect means of promoting interaction because it provides staff members with opportunities to take initiative and respond appropriately to students' needs. Conversely, insufficient staff commitment was perceived as restricting the identification and development of opportunities for interaction. Overall, the processes and outcomes of interaction are shaped by staff collaboration, staff empowerment and leadership support, which

operate through emotional safety, consistency and collective responsibility.

Discussion

Participatory Management and Interaction

The findings are consistent with previous research, including studies employing regression analysis that have identified a statistically significant relationship between interactions among students with disabilities and participatory management, $F(5,144) = 83.383$, $p < .001$. The regression model accounted for approximately 74% of the variance in interaction, indicating substantial explanatory capacity. The findings further reinforce earlier theoretical work on participatory leadership (Hollander et al., 1973), particularly the role of shared decision-making and collective accountability in supporting organisational effectiveness.

They also extend previous evidence concerning the influence of participatory management on teacher-related outcomes (Lin, 2022; Seung-Hwan Ham, 2024) by demonstrating its relevance to student interactions within inclusive educational environments. The qualitative findings provide additional support for the quantitative results, showing that participatory leadership encourages collaborative practices, collective accountability and the development of inclusive environments, thereby facilitating greater student participation. From a sociocultural perspective, these findings are also consistent with Vygotsky (1978) theory concerning the socially mediated nature of learning and development. The results therefore suggest that stronger interaction can contribute to a more supportive social learning environment, with participatory leadership providing an important organisational foundation for its development.

Differential Effects of Participatory Management Dimensions

Collaboration

Collaboration emerged as the strongest predictor of interaction among teachers ($\beta = .375$; $p = .006$). This finding is consistent with previous research emphasising the importance of collaborative professional cultures in achieving effective inclusive education (Pozas & Letzel-Alt, 2023; Schnepel et al., 2025). Through collaborative practices, schools can provide students with more consistent support and foster greater confidence in their abilities by creating a stable and predictable learning environment.

Empowerment

Empowerment also emerged as a statistically significant predictor of interaction among teachers ($\beta = .361$; $p = .003$). This finding is consistent with previous research linking empowering leadership with greater teacher autonomy and professional agency (Tankutay & Çolak, 2025). When teachers experience greater trust, autonomy and empowerment, they are more likely to adopt innovative and responsive approaches, thereby strengthening the implementation of inclusive classroom practices and creating greater opportunities for student interaction.

Non-Significant Predictors

Despite demonstrating strong correlations with teacher-to-teacher interaction, Shared Decision-Making, Communication and Participatory Problem-Solving did not emerge as independent predictors of this outcome. This pattern suggests that their influence on interaction may be indirect, potentially operating through Collaboration and Empowerment. The finding is also consistent with previous research indicating that leadership effects are frequently mediated by existing organisational conditions, including trust, collaboration and professional culture (Jihai Yao & Zhu, 2020). In the Jordanian context, cultural and structural conditions may further shape how participation is experienced, thereby constraining the direct influence of particular dimensions on teachers' perceived participation within schools (Hashem, 2022). Nevertheless, the qualitative findings demonstrate that these dimensions remain fundamental to the development of collaborative and empowering school environments.

Implications for Practice in Jordan

The findings indicate that the development of school leadership practices in Jordan should place greater emphasis on collaborative and empowering approaches within inclusive educational settings. Although shared decision-making, participative decision-making and effective communication remain important components of successful school leadership, their effectiveness depends on how effectively they are translated into collaborative professional practices. To strengthen interaction among students with disabilities, school leaders should foster organisational cultures centred on collaboration and empowerment. Such cultures can promote teamwork, strengthen teacher autonomy and coordination, and reinforce collective accountability for the educational success and inclusion of all students.

Conclusion

This study examined how participatory management enhances interaction among students with disabilities, guided by Participative Leadership Theory and Vygotsky's Sociocultural Theory. Participatory management significantly predicted interaction, explaining approximately 74% of its variance ($R^2 \approx 0.74$), highlighting the importance of school-level leadership and governance in fostering inclusive interaction. At the dimensional level, Collaboration and Empowerment were the only significant predictors. Collaboration supports coordination and shared responsibility, while Empowerment strengthens teacher autonomy, initiative and responsiveness to students with special needs. Shared Decision-Making, Communication and Participatory Problem-Solving were positively associated with interaction but had no independent effects, suggesting indirect influence through Collaboration and Empowerment. Qualitative findings supported these results, emphasising teamwork, shared responsibility, effective communication and supportive leadership in creating emotionally safe and inclusive environments. Consistent with Vygotsky's Sociocultural Theory, participatory management therefore contributes to inclusive development by shaping the social conditions that facilitate student interaction. To sum up, participative management can strengthen student interaction in inclusive settings, primarily through Collaboration and Empowerment. The study contributes to educational leadership and inclusion research by linking participatory governance with student relational outcomes and emphasising shared responsibility among administrators, teachers and support personnel within the Jordanian educational context.

Recommendations for Future Research

This research provides several directions for future investigation. Although not all dimensions of participatory management significantly predicted interaction, Collaboration and Empowerment demonstrated significant predictive effects. Future studies could employ Structural Equation Modelling (SEM) to examine indirect relationships and potential mediation pathways between participatory management and interaction. Longitudinal designs would also provide stronger evidence regarding causal relationships among participatory management practices, interaction, intrusion and marginalisation, and social inclusion. Unlike the present cross-sectional approach, longitudinal research could clarify how participatory management influences these outcomes over time. Future research should further broaden the study population by incorporating students with special needs and their parents. Student-reported and parent-reported data could provide a more comprehensive assessment of

interaction outcomes and clarify how participatory management operates across schools and their wider communities. Finally, qualitative case studies of high-performing inclusive schools could provide deeper insight into how participatory management is enacted and developed in practice, particularly regarding school-level practices, leadership culture and contextual factors that shape interactions involving students with special needs.

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