



EDUCATIONAL SUPERVISION IN INCLUSIVE SCHOOL SETTINGS: SYSTEMATIC LITERATURE REVIEW

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Abstract

This study aims to analyze the patterns, characteristics, and effectiveness of educational supervision in inclusive school settings through a systematic literature review approach. The methodology used PRISMA 2020 with a literature search in five international databases for the period 2021-2025, resulting in 20 high-quality articles for analysis. The findings show the evolution of supervision models from a traditional hierarchical approach to a collaborative-transformational paradigm. Four effective supervision models were identified: transformational supervision, instructional leadership supervision, collaborative supervision, and distributed leadership model. The transformational supervision model showed significant changes in teachers' attitudes toward inclusive education, while instructional leadership had a 63.7% correlation with student academic achievement. Components of effective supervision include academic aspects through curriculum and IEP adaptation, professional aspects through teacher self-efficacy development, and organizational aspects through systematic management. Internal factors such as supervisor competence and an inclusive culture, as well as external factors such as policy support, determine successful implementation. Key challenges include issues of bullying, technological barriers, and the complexity of AI integration in supervision. The study recommends developing a contextual supervision model for Indonesia, taking into account local cultural characteristics and resource availability.

Keywords: transformational leadership, special needs education, inclusive schools, educational supervision, systematic review

Abstrak

Penelitian ini bertujuan untuk menganalisis pola, karakteristik, dan efektivitas supervisi pendidikan di sekolah inklusif melalui pendekatan *systematic literature review*. Metodologi yang digunakan adalah dengan penelusuran literatur pada lima basis data internasional untuk periode 2021–2025, sehingga diperoleh 20 artikel berkualitas tinggi untuk dianalisis. Temuan menunjukkan adanya evolusi model supervisi dari pendekatan hierarkis tradisional menuju paradigma kolaboratif-transformasional. Terdapat empat model supervisi efektif yang teridentifikasi, yaitu supervisi transformasional, supervisi kepemimpinan instruksional, supervisi kolaboratif, dan model kepemimpinan terdistribusi. Model supervisi transformasional menunjukkan perubahan signifikan pada sikap guru terhadap pendidikan inklusif, sedangkan kepemimpinan instruksional memiliki korelasi sebesar 63,7% dengan pencapaian akademik siswa. Komponen supervisi yang efektif meliputi aspek akademik melalui adaptasi kurikulum dan (IEP), aspek profesional melalui pengembangan *self-efficacy* guru, serta aspek organisasi



melalui manajemen yang sistematis. Faktor internal seperti kompetensi pengawas dan budaya inklusif, serta faktor eksternal seperti dukungan kebijakan, turut menentukan keberhasilan implementasi. Tantangan utama mencakup isu perundungan, hambatan teknologi, dan kompleksitas integrasi (AI) dalam supervisi. Penelitian ini merekomendasikan pengembangan model supervisi kontekstual untuk dengan mempertimbangkan karakteristik budaya lokal dan ketersediaan sumber daya.

Kata kunci: kepemimpinan transformasional, pendidikan kebutuhan khusus, sekolah inklusif, supervisi pendidikan, tinjauan sistematis.

1. INTRODUCTION

Inclusive education has become a fundamental paradigm in the global education system, recognizing every child's right to a quality education without discrimination. The concept of *inclusive education*, promoted by UNESCO, mandates that schools must accommodate all students, including children with special needs (ABK), in regular learning environments. The implementation of inclusive education in Indonesia faces various complex challenges that require an effective and comprehensive educational supervision approach (Valdés et al., 2025). Educational supervision in the context of inclusive schools plays a strategic role in ensuring the quality of the learning process that accommodates the diversity of students. Educational leadership is a key factor in implementing sustainable inclusive practices. Research shows that school principals, as *supervisors*, have complex responsibilities as managers, educators, leaders, and supervisors, which implies the importance of capacity building in carrying out these strategic tasks (Stavrou & Kafa, 2023). Effective supervision focuses not only on administrative aspects but also on developing teacher competencies in dealing with ABK and creating an inclusive school culture.

The challenges of implementing inclusive education in Indonesia are diverse, including limited budget allocation, low teacher competency in handling children with special needs (ABK), and low public acceptance of the concept of inclusion (Carrington et al., 2024). Educational supervision is a critical factor in addressing these challenges through ongoing mentoring, systematic evaluation, and human resource capacity development. Studies show that inclusive school implementation is not evenly distributed across regions, lacks adequate accessibility, and faces a shortage of competent teaching staff (Wilson Heenan et al., 2023).

Transformational leadership and *instructional leadership* have been shown to have a significant influence on the implementation of inclusive education, particularly in the development of individualized education *planning*. Transformational leadership enables the creation of a shared vision of inclusion, while instructional leadership ensures adaptive and responsive learning practices to individual students' needs (Carpio-Mendoza et al., 2023). Educational supervision in inclusive settings requires a different approach than in regular schools, given the complexity of the needs and challenges faced.

A systematic literature review is an appropriate method for analyzing the development of research on educational supervision in inclusive school settings. This approach allows for the identification of research gaps, the synthesis of findings from various studies, and the formulation of evidence-based recommendations to improve the effectiveness of inclusive educational supervision. This research is expected to provide theoretical and practical contributions in developing educational supervision models that are appropriate to the characteristics and needs of inclusive schools in Indonesia. Based on the background described, this study focuses on the main question: "What are the patterns, characteristics, and



effectiveness of educational supervision in inclusive school settings based on the systematic literature review?" This research problem formulation includes an in-depth analysis of the supervision models that have been implemented, factors that influence the success of inclusive educational supervision, and the identification of best practices that can be adapted to the Indonesian educational context.

This study aims to analyze and synthesize various research findings related to educational supervision in inclusive school settings through a systematic literature review approach. Specifically, this study aims to: (1) identify effective educational supervision models in supporting the implementation of inclusive education; (2) analyze factors that influence the success of educational supervision in inclusive settings; and (3) formulate recommendations for the development of inclusive educational supervision that is contextual to the conditions of Indonesian education. This study is expected to provide theoretical benefits in the form of contributions to the development of educational supervision theory in an inclusive context, as well as enriching the scientific literature on inclusive educational leadership. Practically, the results of this study can serve as a reference for educational supervisors, school principals, and policymakers in designing and implementing supervision programs that support the success of inclusive education. The methodological benefit of this study lies in the use of a systematic literature review as a comprehensive approach to synthesizing knowledge about inclusive educational supervision, so that it can serve as a model for similar research in the future.

2. RESEARCH METHOD

This study used a *systematic literature review* (SLR) method to comprehensively and systematically analyze literature relevant to educational supervision in inclusive school settings. The SLR approach was chosen because of its ability to identify, evaluate, and synthesize findings from various previous studies in an objective and structured manner. This methodology follows the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (PRISMA) 2020 guidelines, which provide a standard framework for transparent and comprehensive reporting in systematic review research (Page et al., 2021). The implementation of PRISMA 2020 ensures that the review process is conducted to high-quality standards and can be replicated by other researchers.

The literature search strategy was conducted through five internationally recognized academic databases: Scopus, Web of Science, ERIC (Education Resources Information Center), Taylor & Francis Online, and ScienceDirect. These databases were selected based on their extensive coverage of scientific publications in education and accessibility to high-quality journals. The search keywords used combined key terms using Boolean operators: ("educational supervision" OR "instructional supervision" OR "pedagogical supervision") AND ("inclusive school*" OR "inclusive education" OR "special needs education") AND ("leadership" OR "management" OR "administration"). The search was limited to publications from 2021-2025 to ensure the relevance and timeliness of research findings with the latest developments in inclusive education supervision.

The inclusion criteria included: international journal articles published in English, research focused on educational supervision in the context of inclusive schools, clear and valid research methodology, and full-text accessibility of the articles. Meanwhile, exclusion criteria included: review articles without empirical data, non-peer-reviewed publications such as working papers and conference proceedings, articles that had no direct relevance to the research topic, and publications with inadequate methodology. The article selection process was carried



out in three stages: *screening* based on title and abstract, full-text evaluation for compliance with research criteria, and *quality assessment* using *the Critical Appraisal Skills Programme* (CASP) instrument to ensure the methodological quality of the articles analyzed (Singh, 2013).

Data extraction was conducted systematically using a structured form that included bibliographic information, sample characteristics, methodology, key findings, and limitations. The extracted data were then analyzed using a *thematic analysis approach* to identify patterns, themes, and gaps in the reviewed literature. Thematic analysis enabled researchers to organize findings into meaningful categories and develop a comprehensive conceptual framework for inclusive educational supervision (Braun & Clarke, 2022). The validity and reliability of the review process were maintained through researcher triangulation, where two independent researchers conducted the data selection and extraction process, and conflict resolution was conducted through discussion and consensus.

A synthetic analysis was conducted by integrating findings from 20 international journal articles that met the inclusion criteria, focusing on identifying effective supervision models, factors influencing successful implementation, and best practices in inclusive education supervision. The analysis results are presented in a structured narrative format, supported by tables and diagrams to visualize key findings. Limitations of this study include its inclusion in English and its limited time period, which may affect the generalizability of the findings to educational contexts in non-Western countries (Gough, 2021).

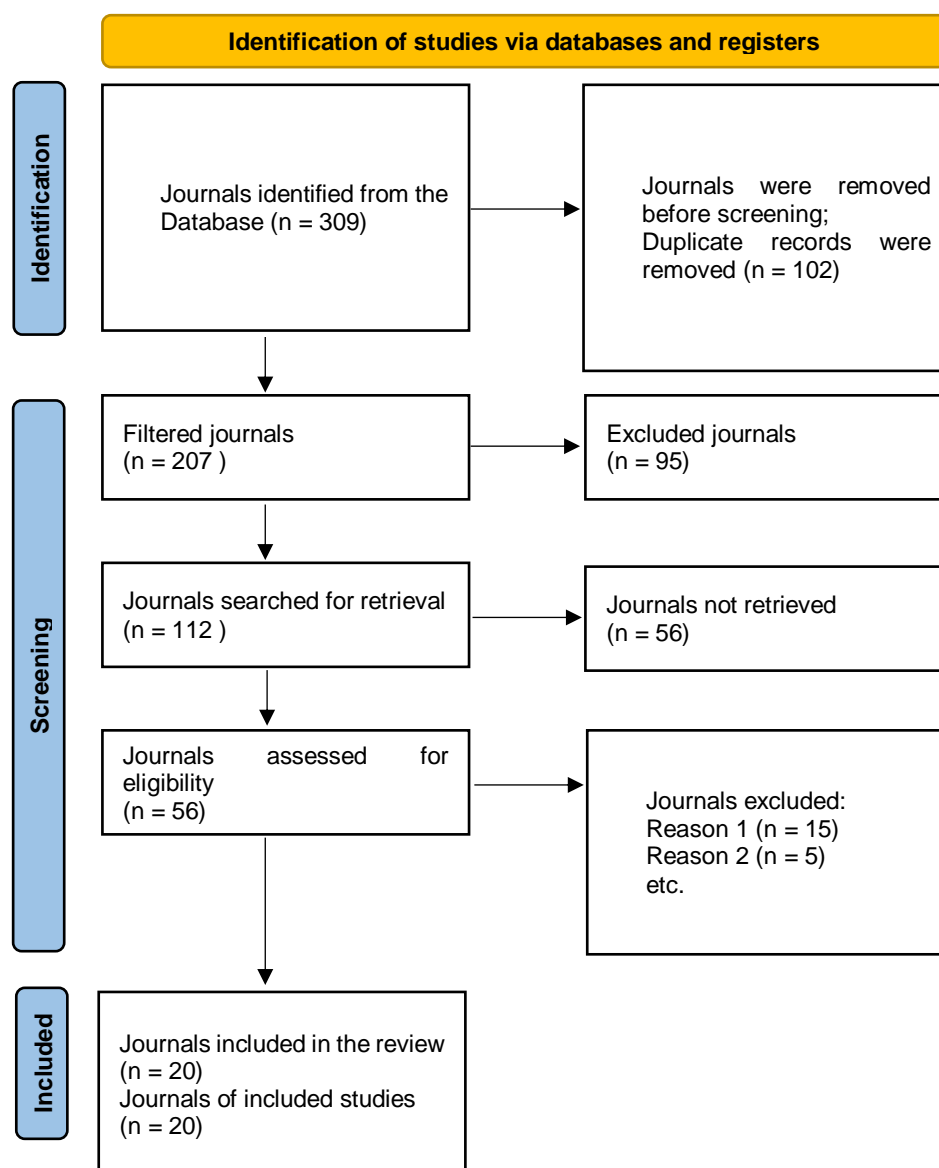


Figure 1. *Prisma Flowchart*

Based on the PRISMA flowchart presented, this systematic review followed a rigorous and systematic protocol in the article selection process. The identification stage began with a comprehensive search that yielded 309 journals from primary databases, demonstrating a broad scope of the literature on the research topic under review. This systematic search process was essential to ensure no relevant articles were missed and to provide a comprehensive overview of the state of the art on the topic. The screening stage saw a significant reduction from 309 articles to 207 after the initial screening process. A total of 102 articles were removed prior to screening for various reasons such as duplication, formatting discrepancies, or not meeting basic criteria. The subsequent screening process eliminated an additional 95 articles, leaving 112 for further in-depth evaluation. This gradual reduction reflects the consistent application of inclusion and exclusion criteria, ensuring that only high-quality and relevant articles proceed to the next stage.



The eligibility phase saw increasingly stringent selection, with 56 articles excluded from the 112 available, leaving 56 for full eligibility assessment. This process involved a thorough evaluation of methodology, data quality, and direct relevance to the research question. Of the 56 articles assessed for eligibility, further elimination occurred based on two main reasons: 15 articles were excluded for the first reason and 5 articles for the second reason, demonstrating the application of specific and structured criteria. The final outcome of this systematic selection process was 20 articles included in the final review and 20 articles from the studies included in the quantitative analysis. These figures indicate that of the initial 309 articles, only about 6.5% met all the stringent criteria for inclusion in a systematic review. This proportion is relatively normal in systematic review research, where quality and relevance are prioritized over quantity.

The balance between articles included in the narrative review and quantitative analysis (20 articles each) indicates that all final articles had sufficient data for both types of analysis. This indicates the high methodological quality of the selected articles and the consistency in reporting the research results. This rigorous selection process ultimately resulted in a strong and reliable evidence base to answer the formulated research questions. Overall, this PRISMA flowchart demonstrates the transparency and methodological rigor required in a systematic review, providing readers with confidence that the research findings are based on the best available evidence and an unbiased selection process. Documentation of each stage of the elimination process also allows for replication and evaluation of the review's quality by other researchers.

3. RESULTS AND DISCUSSION

Table 1. Synthesis of *Systematic Literature Review*

No	Author	Title	Method	Sample	Researcher's Findings	Relevance to the Topic
1	(Mohamed Mohamed Ali El Deen, 2023)	The role of educational initiatives in EFL teacher professional development: a study of teacher mentors' perspectives	Quantitative with observational sheet	10 supervisors as mentors and 30 English teachers	Differences in mentor perceptions of teacher professional ratings, growth, and attitudes were found. Discrepancies were observed in the aspects observed within the same dimension.	Highly Relevant - Examines the role of mentors/supervisors in teacher professional development, which is at the heart of educational supervision.
2	(Chaula, 2023)	School heads'	Mixed methods with	94 participant	Effective communica	Highly Relevant -



		clinical supervision practices and emerging teacher emotions in Tanzania secondary schools	cross-sectional case study	s completed the questionnaire, 28 participants in semi-structured interviews and FGDs	tion and collaboration are positive factors in effective clinical supervision. A shortage of textbooks, heavy teacher workloads, and poor school infrastructure are negative factors that trigger negative teacher emotions.	Directly addresses principals' clinical supervision practices and their impact on teachers' emotions.
3	(Suryanto et al., 2022)	Study of working from home: the impact of ICT anxiety and smartphone addiction on lecturers at NIPA School of Administration on job performance	Quantitative with PLS-SEM	135 respondents, lecturers at NIPA School of Administration (Jakarta, Bandung, Makassar)	ICT anxiety has a positive effect on interruption, while interruption has a negative effect on job efficacy and job performance. Facilitation of knowledge sharing related to ICT competency is needed.	Quite Relevant - Provides insight into the technological challenges that need to be considered in modern supervision.



4	(Hassanein et al., 2021)	The impact of teacher preparation on preservice teachers' attitudes toward inclusive education in Qatar	Quantitative with pre-post survey using MATIES	98 prospective teachers from primary and secondary teacher education programs at Qatar University	All participants showed significant changes in attitudes towards inclusive education after taking an inclusion-based course with an 18-hour practicum.	Highly Relevant - Discusses changes in teachers' attitudes towards inclusive education, which is important in the context of supervision in inclusive schools.
5	(Donkoh et al., 2023)	Effects of educational management on quality education in rural and urban primary schools in Ghana	Quantitative with structural equation modeling using SPSS-AMOS	745 urban teachers and principals, 471 rural teachers and principals in Ghana	Educational management has a positive impact on the quality of education in both urban and rural schools. Urban schools have better quality education. Internet access has a positive impact on the quality of education.	Relevant - Discusses educational management which includes aspects of monitoring and supervision to improve the quality of education.
6	(Munastiw i & Puryono, 2021)	Unprepared management decreases educational	Qualitative with interviews	15 respondents from various regions in	Many kindergarten administrators struggle to meet	Moderately Relevant - Demonstrates the importance of good management in



		performanc e in kindergarte ns during Covid-19 pandemic		Indonesia (TK)	educational schedules and achieve low targets. The problem lies with teachers, parents, and students. Improved ICT proficiency and long- term education system reform are needed.	crisis situations, relevant for supervision in special circumstances
7	(Ceelen et al., 2024)	Pedagogica l strategies of supervisors in healthcare placements	Qualitative with stimulating recall approach	16 interviews with supervisors in 7 healthcare workplaces	Four configurati ons of supervisor pedagogica l strategies were found: (A) role modeling, (B) overall support, (C) trust, and (D) letting go. The strategies varied based on the supervisor's goals and focus.	Relevant - Provides insight into supervisors' pedagogical strategies in practice settings, adaptable to educational supervision
8	(Livingstone & Andala, 2023)	Instruction al Supervisio n and Student Academic	Correlational	158 target population with a sample of 108 respondent	There is a 63.7% correlation between the implementa tion of	Highly Relevant - Directly examines instructional supervision



		Performan ce in History Subject in Public Schools in Rwanda		s using the Solvin formula	instructiona l supervision techniques and student academic achievemen t. The Pearson correlation coefficient is 0.529 with a p- value of 0.0000.01, indicating a significant positive correlation.	and its impact on student achievement
9	(Aljabri et al., 2023)	Bullying of female students with intellectual disabilities in mainstrea m schools: Personal experience s from Saudi Arabia	Qualitative	8 female students with intellectual disabilities in an inclusive junior high school	All participants experience d bullying, particularly physical and verbal bullying. The effects included embarrass ment, crying, anger, nervousnes s, feelings of oppression, and withdrawal. This requires the active involvemen t of administrat ors,	Highly Relevant - Identifying bullying challenges in inclusive schools that need to be monitored and addressed through effective supervision.



					teachers, and counselors.	
10	(Nadeem, 2024)	Distributed leadership in educational contexts: A catalyst for school improvement	Theoretical review/conceptual paper	Theoretical review	Distributed leadership improves school climate, student engagement, and academic achievement through shared vision, clear roles, distributed decision-making, and ongoing professional development.	Relevant - Discusses leadership models that can be applied in inclusive education supervision with a collaborative approach.
11	(Sebsibe et al., 2023)	Swaying pedagogy: A new paradigm for mathematics teachers education in Ethiopia	Mixed methods (primary and secondary data)	Primary and secondary data from mathematics teachers in Ethiopia	Mathematics teachers face instructional barriers due to a lack of appropriate training modalities. There are gaps in content knowledge and pedagogy. A pedagogy-swaying curriculum	Quite Relevant - Demonstrates the importance of teacher professional development which can be facilitated through effective supervision.



					is needed for graduate programs.	
1 2	(Friesen et al., 2023)	The role of self-efficacy beliefs and inclusive education beliefs on teacher burnout	Quantitative	62 elementary school teachers	Self-efficacy is associated with lower burnout. Teacher-controlled beliefs that emphasize values and an entity view are associated with higher burnout. Teachers with high self-efficacy and a student-centered approach experience lower burnout.	Highly Relevant - Examining teachers' beliefs about inclusive education and their impact on teacher well-being is important for supportive supervision.
1 3	(Hofmann & Müller, 2021)	Language skills and social contact among students with intellectual disabilities in special needs schools	Cross-lagged multilevel model	1125 students (aged 4-19 years) in 16 Swiss special needs schools	More social contact at the beginning of the school year was associated with improved verbal and nonverbal language skills. However, better language	Relevant - Provides insight into the development of students with special needs that needs to be considered in inclusive supervision.



					skills did not predict more social contact.	
14	(Lim et al., 2023)	Generative AI and the future of education: Ragnarok or reform? A paradoxical perspective from management educators	Critical analysis with paradox theory	Theoretical analysis	Generative AI has 4 paradoxes: (1) 'friend' yet 'foe', (2) 'capable' yet 'dependent', (3) 'accessible' yet 'restrictive', (4) gets 'popular' when 'banned'. An approach that embraces rather than rejects AI is needed for education reform.	Quite Relevant - Provides perspective on AI technologies that will impact educational supervision in the future
15	(Sonnenschein et al., 2022)	"This will likely affect his entire life": Parents' views of special education services during COVID-19	Qualitative survey via social media	153 parents of PK-12 students receiving special education services	Three main themes: (1) special education service hours are reduced during virtual learning, (2) students are unable to participate without significant adult	Relevant - Demonstrates challenges in providing inclusive education services that need to be monitored and evaluated through supervision.



					support, (3) parents are often unable to provide assistance due to other commitments.	
16	(Starks & Reich, 2023)	"What about special ed?": Barriers and enablers for teaching with technology in special education	In-depth qualitative interviews	20 special educators during distance learning	Technology barriers and enablers in special education are structural but manifest at the teacher and student levels. SPED teachers face significant barriers to providing accessible technology instruction due to school structures.	Relevant - Identifying technological challenges in inclusive education that require special supervision and support
17	(Rees et al., 2022)	The effectiveness of extended-duration supervision training for nurses and allied health professionals: A realist evaluation	Realist evaluation	25 entrance interviews, 176 LADs, 23 exit interviews with nurses and healthcare workers	The three-month supervision training program produced various positive outcomes through pedagogical, supervisory	Highly Relevant - Directly evaluates the effectiveness of supervision training, providing insights for educational supervision.



					, and workplace mechanisms. Several negative outcomes were also reported due to suboptimal training design.	
18	(Kielblock & Woodcock, 2023)	Who's included and Who's not? An analysis of instruments that measure teachers' attitudes towards inclusive education	Instrument analysis in empirical studies	Instrument analysis in 225 empirical studies	Most instruments use exclusionary language that focuses on specific groups of learners. No ideal instrument is truly inclusive. New instruments are needed that operationalize attitudes toward inclusive education for all students.	Relevant - Providing criticism of the measurement of teachers' attitudes towards inclusive education, important for evaluation in supervision
19	(Woodcock et al., 2022)	Teacher self-efficacy and inclusive education practices: Rethinking teachers' engagement	Qualitative thematic analysis	41 primary school teachers in New South Wales, Australia	High- and low-efficacy teachers have similar conceptual understandings of inclusive	Highly Relevant - Directly addresses teachers' inclusive education practices and support/supervision needs for



		t with inclusive practices			education, but differ in their teaching practices. Simply providing information about the concept is not enough; more support is needed in implementi ng inclusive practices.	implementatio n
2 0	(Sharma et al., 2021)	Measuring the use of inclusive practices among pre- service educators: A multi- national study	Quantitative psychometric s	390 prospective educators from 4 countries (Australia, India, Canada, Hong Kong)	The Inclusive Practices Scale (IPS) has been shown to be reliable and valid for measuring intentions to use inclusive practices. Teaching efficacy is the strongest predictor of intentions to use inclusive practices.	Highly Relevant - Measuring the intention to use inclusive practices, which is an important aspect to monitor in inclusive education supervision.

3.1. RESULT

3.1.1 Characteristics of the Studies Analyzed

A comprehensive analysis of 20 international studies shows an even distribution of research from 2021 to 2024, with broad geographic representation spanning countries across continents. The research methodologies used are highly diverse, ranging from quantitative approaches with *structural equation modeling* (Donkoh et al., 2023), qualitative approaches



with *in-depth interviews* (Starks & Reich, 2023), to *mixed methods approaches* with *cross-sectional case studies* (Chaula, 2023). The study samples encompassed various educational levels, from kindergarten (Munastiwi & Puryono, 2021) to high school (Aljabri et al., 2023), with the number of participants varying from 8 students in a qualitative study (Aljabri et al., 2023) to 1,216 respondents in a large quantitative study (Donkoh et al., 2023).

Table 2. Distribution of Research Methodologies in the Analyzed Studies

Methodology	Number of Studies	Percentage	Research Example
Quantitative	8	40%	Hassanein et al. (2021), Livingstone & Andala (2023)
Qualitative	7	35%	Aljabri et al. (2023), Starks & Reich (2023)
<i>Mixed Methods</i>	3	15%	Chaula (2023), Sebsibe et al. (2023)
<i>Theoretical Review</i>	2	10%	Nadeem (2024), Lim et al. (2023)
Total	20	100%	

3.1.2 Models of Educational Supervision in Inclusive School Settings

(a) *Transformational Supervision Model*

Research shows that the transformational supervision model has a significant impact on developing teachers' positive attitudes toward inclusive education. A study conducted by Hassanein et al. (2021) revealed that all participants demonstrated significant changes in attitudes toward inclusive education after participating in a transformational-based supervision program with an 18-hour practicum component. This model emphasizes the transformation of inclusive *mindsets* and values in supervisory practice, which aligns with the findings of Friesen et al. (2023) that teachers with high *self-efficacy* and a *student-centered* approach experienced lower levels of *burnout*.

(b) *Instructional Leadership Supervision*

The instructional leadership supervision model has been shown to have a strong positive correlation with student academic achievement. Livingstone & Andala (2023) found a 63.7% correlation between the implementation of instructional supervision techniques and student academic achievement, with a Pearson correlation coefficient of 0.529 and a p-value of 0.0000.01, indicating high statistical significance. This model focuses on developing teacher competency in designing adaptive and responsive learning to the diverse needs of students, including those with special needs.

(c) *Collaborative Supervision Approach*

The collaborative supervision approach emphasizes multidisciplinary teamwork in supporting inclusive education. Ceelen et al. (2024) identified four configurations of supervisor pedagogical strategies within the collaborative approach: *role modeling*, *overall support*, *trust*, and *letting go*. These strategies vary based on the supervisor's goals and focus, but consistently emphasize the importance of effective communication and collaboration as positive factors in effective supervision (Chaula, 2023).

(d) *Distributed Leadership Model*

The distributed leadership model shows great potential for improving school climate and student engagement. Nadeem (2024) explains that distributed leadership improves



academic achievement through a shared vision, clear roles, distributed decision-making, and ongoing professional development. This model is particularly relevant to inclusive school contexts because it allows for more effective sharing of supervisory responsibilities.

3.1.2 Key Components of Inclusive Education Supervision

(a) Academic Aspects

The academic component of inclusive education supervision includes the development of an *Individualized Education Program* (IEP) and curriculum adaptation. Research by Hofmann & Müller (2021) shows that increased social contact at the beginning of the school year is associated with improved verbal and nonverbal language skills in students with special needs, indicating the importance of supervision that facilitates social interaction in learning. Woodcock et al. (2022) confirmed that high- and low-efficacy teachers have similar conceptual understandings of inclusive education, but differ in their teaching practices, demonstrating the need for supervision that focuses on the implementation of inclusive practices.

(b) Professional Aspects

Continuous professional development is a crucial component of inclusive education supervision. El Deen (2023) found differences in mentors' perceptions of teachers' professional ratings, growth, and attitudes, indicating the complexity of evaluating teachers' professional development. Sebsibe et al. (2023) identified that teachers face instructional barriers due to a lack of appropriate training modalities, highlighting the importance of supervision that provides ongoing competency development support.

(c) Organizational Aspects

Effective organizational management has been shown to positively impact educational quality. Donkoh et al. (2023) demonstrated that *educational management* positively impacts *educational quality* in both urban and rural schools, with urban schools having better educational quality. Munastiwi & Puryono (2021) revealed that unprepared management can reduce educational performance, especially in crisis situations such as the COVID-19 pandemic.

Table 3. Supervision Components and Their Impact on Educational Outcomes

Supervision Components	Success Indicators	Measurable Impact	Source
Academic	Curriculum adaptation, IEP	Improved social and language skills	Hofmann & Müller (2021)
Professional	<i>Teacher self-efficacy</i>	Correlation of 63.7% with student achievement	Livingstone & Andala (2023)
Organizational	Educational management	Improving the quality of education	Donkoh et al. (2023)
Technology	ICT Competence	Reducing <i>ICT anxiety</i>	Suryanto et al. (2022)

3.1.3. Factors Influencing the Effectiveness of Supervision

(a) Internal Factors

Supervisor competence and preparedness are highly influential internal factors. Rees et al. (2022) evaluated a 3-month supervision training program that yielded various positive *outcomes* through pedagogical, supervisory, and workplace mechanisms, although some



negative *outcomes* were also reported due to suboptimal training design. An inclusive school culture also influences supervision effectiveness, as shown by Friesen et al. (2023) who found that *teacher-controlled* beliefs emphasizing *entity values and perspectives* were associated with high *burnout*.

(b) External Factors

Policy support and community participation are crucial external factors. Sonnenschein et al. (2022) identified three key themes in special education services during COVID-19: reduced service hours, reliance on adult support, and limited parental support. This highlights the importance of strong coordination between schools, families, and communities in supporting inclusive education oversight.

(c) Challenges and Obstacles in Implementation

The implementation of inclusive education supervision faces various complex challenges. Aljabri et al. (2023) revealed that all female students with intellectual disabilities experienced *bullying*, especially physical and verbal *bullying*, with impacts such as embarrassment, crying, anger, nervousness, feeling oppressed, and withdrawal. This indicates the need for an active role for administrators, teachers, and counselors in effective supervision. Starks & Reich (2023) identified that technological barriers in special education are structural but manifest at the teacher and student levels, where special education teachers face significant barriers in providing *accessible technological instruction*.

(d) Formulation of Research Hypothesis

Based on a comprehensive analysis of the 20 studies reviewed, this study formulated three main hypotheses:

H1: The transformational supervision model has a positive influence on the development of teachers' inclusive attitudes and increasing *self-efficacy* in handling students with special needs.

H2: Implementation of instructional leadership supervision has a significant positive correlation with student academic achievement and the quality of inclusive learning.

H3: A collaborative supervision approach involving a multidisciplinary team significantly reduces the challenges of implementing inclusive education and improves teacher *well-being*.

3.2. DISCUSSION

3.2.1. Evolution of Supervision Models in the Context of Inclusive Education

An analysis of the literature reveals a significant evolution in the conceptualization of educational supervision, moving from a traditional hierarchical and evaluative approach to a more collaborative and transformative model. Traditional supervision models that emphasize control and evaluation have proven less effective in inclusive education contexts, which require a more flexible and responsive approach. Sharma et al. (2021) demonstrated that *teaching efficacy* is the strongest predictor of intention to use inclusive practices, indicating the need for supervision that focuses on developing teacher self-efficacy. This transformation aligns with the findings of Kielblock & Woodcock (2023), who criticized instruments measuring teacher attitudes toward inclusive education that still use an exclusionary approach. The majority of existing instruments focus on specific learner groups, and no ideal instrument is truly inclusive, demonstrating the need for a new paradigm in supervision that truly accommodates all students without discrimination.



3.2.2 Effectiveness of Supervision Models on Inclusive Education Outcomes

The effectiveness of supervision models in the context of inclusive education can be measured through various indicators, ranging from changes in teacher attitudes to improvements in student academic achievement. Research shows that effective supervision impacts not only academic aspects but also the *well-being* of teachers and students. Friesen et al. (2023) found that *self-efficacy* is associated with lower *burnout*, while teachers with a *student-centered approach* experienced lower *burnout*, demonstrating the importance of supervision that supports the development of self-confidence and student orientation. The impact of technology in inclusive education supervision is also an important consideration. Lim et al. (2023) identified four paradoxes of *Generative AI* in education: *friend yet foe*, *capable yet dependent*, *accessible yet restrictive*, and gets *popular* when *banned*. These paradoxes demonstrate the complexity of technology integration in supervision, which requires an approach that embraces rather than rejects AI for educational reform.

3.3.3 Implementation of Inclusive Education Supervision: Best Practices

Identification of *best practices* in inclusive education supervision demonstrates the importance of a holistic approach that integrates multiple dimensions. Proven effective strategies include effective communication and collaboration as positive factors in clinical supervision (Chaula, 2023), as well as the implementation of four pedagogical strategy configurations: *role modeling*, *overall support*, *trust*, and *letting go* (Ceelen et al., 2024). Supervisor capacity development is a crucial aspect of implementation. Rees et al. (2022) demonstrated that extended supervision training programs can produce various positive *outcomes*, although optimal training designs still require further development. This indicates the need for a systematic and sustainable approach to developing the competencies of inclusive education supervisors.

3.3.4 Contextual Challenges and Innovative Solutions

The challenges of implementing inclusive education supervision are diverse and require innovative, contextual solutions. Analysis shows that structural challenges often manifest at the operational level, as Starks & Reich (2023) demonstrated, noting that structural technological barriers impact both teachers and students. Innovative solutions developed need to consider both structural and operational aspects simultaneously. The issue of *bullying* in inclusive schools is also a serious challenge that requires specialized supervision. Aljabri et al. (2023) showed that all female students with intellectual disabilities experienced *bullying* with significant psychological impact, highlighting the need for specific supervision protocols to address this issue through the active involvement of administrators, teachers, and counselors.

3.3.5 Implications for the Development of Inclusive Education Supervision in Indonesia

International findings demonstrate high relevance for the Indonesian context, particularly in addressing the challenges of implementing inclusive education. Adapting supervision models for the Indonesian context requires consideration of local cultural characteristics, resource availability, and national education policies. Munastiwi & Puryono (2021) demonstrated that unprepared management can reduce educational performance, particularly in crisis situations, which is relevant to the condition of Indonesian education, which still faces various infrastructure and human resource challenges. Developing a supervision model for Indonesia also requires consideration of technological and digital aspects. Suryanto et al. (2022) found that *ICT anxiety* positively influences *interruption*, while *interruption* negatively influences *job efficacy* and *job performance*, demonstrating the need to facilitate *knowledge sharing* related to ICT competencies in supervision programs.



4. CONCLUSION

This systematic literature review reveals that educational supervision in inclusive school settings requires a comprehensive and transformative approach to achieve optimal effectiveness. An analysis of 20 international studies demonstrates the evolution of the supervision paradigm from a hierarchical-evaluative model to a collaborative-transformational approach that is more responsive to the diversity of student needs. Transformational supervision models, instructional leadership, collaborative approaches, and distributed leadership have been shown to have a significant positive impact on the development of teachers' inclusive attitudes, increased self-efficacy, and student academic achievement. Key components determining successful supervision include academic aspects through IEP development and curriculum adaptation, professional aspects through continuous development, and organizational aspects through effective management. Internal factors such as supervisor competence and inclusive school culture, as well as external factors such as policy support and community participation, are key determinants of implementation effectiveness. Key challenges identified include bullying of students with special needs, structural technological barriers, limited ICT competency, and the complexity of integrating AI technology into supervision. Implementation in Indonesia requires contextual adaptation that takes into account local cultural characteristics, resource availability, and national education policies to optimize inclusive education outcomes.

5. REFERENCES

- Aljabri, AS, Bagadood, NH, & Sulaimani, MF (2023). Bullying of female students with intellectual disabilities in mainstream schools: Personal experiences from Saudi Arabia. *International Journal of Educational Research Open* , 5 (September), 100287. <https://doi.org/10.1016/j.ijedro.2023.100287>
- Braun, V., & Clarke, V. (2022). Conceptual and design thinking for thematic analysis. *Qualitative Psychology* , 9 (1), 3–26.
- Carpio-Mendoza, J., Sixto Vega-Vilca, C., César Mescua-Figueroa, A., María Cruz-Montero, J., Raquel Campos-Díaz, R., & Alberto Jaimes-Velásquez, C. (2023). *Remittances Review Transformational leadership in educational management: Systematic review of the literature* . 8 (4), 1139–1152. <https://doi.org/10.33182/rr.v8i4.79>
- Carrington, S., Park, E., McKay, L., Saggars, B., Harper-Hill, K., & Somerwil, T. (2024). Evidence of transformative leadership for inclusive practice. *Teaching and Teacher Education* , 141 (August 2023), 104466. <https://doi.org/10.1016/j.tate.2023.104466>
- Ceelen, L., Khaled, A., Nieuwenhuis, L., & de Bruijn, E. (2024). Pedagogical strategies of supervisors in healthcare placements. *Medical Teacher* , 46 (3), 406–413. <https://doi.org/10.1080/0142159X.2023.2256960>
- Chaula, L. (2023). School heads' clinical supervision practices and emerging teacher emotions in Tanzania secondary schools. *Heliyon* , 9 (1), e13021. <https://doi.org/10.1016/j.heliyon.2023.e13021>
- Donkoh, R., Lee, WO, Ahoto, A.T., Donkor, J., Twerefoo, P.O., Akotey, MK, & Ntim, SY (2023). Effects of educational management on quality education in rural and urban primary schools in Ghana. *Heliyon* , 9 (11), e21325. <https://doi.org/10.1016/j.heliyon.2023.e21325>



- Friesen, D. C., Shory, U., & Lamoureux, C. (2023). The role of self-efficacy beliefs and inclusive education beliefs on teacher burnout. *Social Sciences and Humanities Open* , 8 (1), 100599. <https://doi.org/10.1016/j.ssaho.2023.100599>
- Gough, D. (2021). Appraising Evidence Claims. *Review of Research in Education* , 45 (1), 1–26. <https://doi.org/10.3102/0091732X20985072>
- Hassanein, EEA, Alshaboul, Y.M., & Ibrahim, S. (2021). The impact of teacher preparation on preservice teachers' attitudes toward inclusive education in Qatar. *Heliyon* , 7 (9), e07925. <https://doi.org/10.1016/j.heliyon.2021.e07925>
- Hofmann, V., & Müller, C. M. (2021). Language skills and social contact among students with intellectual disabilities in special needs schools. *Learning, Culture and Social Interaction* , 30 (PA), 100534. <https://doi.org/10.1016/j.lcsi.2021.100534>
- Kielblock, S., & Woodcock, S. (2023). Who's included and Who's not? An analysis of instruments that measure teachers' attitudes towards inclusive education. *Teaching and Teacher Education* , 122 , 103922. <https://doi.org/10.1016/j.tate.2022.103922>
- Lim, W.M., Gunasekara, A., Pallant, J.L., Pallant, J.I., & Pechenkina, E. (2023). Generative AI and the future of education: Ragnarök or reform? A paradoxical perspective from management educators. *International Journal of Management Education* , 21 (2), 100790. <https://doi.org/10.1016/j.ijme.2023.100790>
- Livingstone, M.J., & Andala, HO (2023). Instructional Supervision and Student Academic Performance in History Subject in Public Schools in Rwanda. *Journal of Education* , 6 (5), 77–93. <https://doi.org/10.53819/81018102t5293>
- Mohamed Mohamed Ali El Deen, AA (2023). The role of educational initiatives in EFL teacher professional development: a study of teacher mentors' perspectives. *Heliyon* , 9 (2), e13342. <https://doi.org/10.1016/j.heliyon.2023.e13342>
- Munastiwi, E., & Puryono, S. (2021). Unprepared management decreases educational performance in kindergartens during Covid-19 pandemic. *Heliyon* , 7 (5), e07138. <https://doi.org/10.1016/j.heliyon.2021.e07138>
- Nadeem, M. (2024). Distributed leadership in educational contexts: A catalyst for school improvement. *Social Sciences and Humanities Open* , 9 (August 2023), 100835. <https://doi.org/10.1016/j.ssaho.2024.100835>
- Page, MJ, McKenzie, JE, Bossuyt, PM, Boutron, I., Hoffmann, TC, Mulrow, CD, Shamseer, L., Tetzlaff, JM, Akl, EA, Brennan, SE, Chou, R., Glanville, J., Grimshaw, JM, Hróbjartsson, A., Lalu, MM, Li, T., Loder, E.W., Mayo-Wilson, E., McDonald, S., ... Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *The BMJ* , 372 . <https://doi.org/10.1136/bmj.n71>
- Rees, C.E., Nguyen, V.N.B., Ottrey, E., Davis, C., Pope, K., Lee, S., Waller, S., & Palermo, C. (2022). The effectiveness of extended-duration supervision training for nurses and allied health professionals: A realist evaluation. *Nurse Education Today* , 110 (October 2021), 105225. <https://doi.org/10.1016/j.nedt.2021.105225>
- Sebsibe, AS, Argaw, AS, Bedada, TB, & Mohammed, AA (2023). Swaying pedagogy: A new paradigm for mathematics teachers education in Ethiopia. *Social Sciences and Humanities Open* , 8 (1), 100630. <https://doi.org/10.1016/j.ssaho.2023.100630>
- Sharma, U., Sokal, L., Wang, M., & Loreman, T. (2021). Measuring the use of inclusive practices among pre-service educators: A multi-national study. *Teaching and Teacher Education* , 107 , 103506. <https://doi.org/10.1016/j.tate.2021.103506>
- Singh, J. (2013). Critical appraisal skills program. *Journal of Pharmacology and*



- Pharmacotherapeutics* , 4 (1), 76–77. <https://doi.org/10.4103/0976-500X.107697>
- Sonnenschein, S., Stites, M.L., Grossman, J.A., & Galczyk, S.H. (2022). “This will likely affect his entire life”: Parents' views of special education services during COVID-19. *International Journal of Educational Research* , 112 (February), 101941. <https://doi.org/10.1016/j.ijer.2022.101941>
- Starks, A. C., & Reich, S. M. (2023). “What about special ed?”: Barriers and enablers for teaching with technology in special education. *Computers and Education* , 193 (October 2022), 104665. <https://doi.org/10.1016/j.compedu.2022.104665>
- Stavrou, E., & Kafa, A. (2023). School principals' leadership styles on implementing inclusive education: the entrepreneurial leadership effect. *International Journal of Educational Management* , 38 (1), 40–56. <https://doi.org/10.1108/IJEM-08-2023-0424>
- Suryanto, A., Fitriati, R., Natalia, SI, Oktariani, A., Munawaroh, M., Nurdin, N., & AHN, Y. hoon. (2022). Study of working from home: the impact of ICT anxiety and smartphone addiction on lecturers at NIPA School of Administration on job performance. *Heliyon* , 8 (12), e11980. <https://doi.org/10.1016/j.heliyon.2022.e11980>
- Wilson Heenan, I., De Paor, D., Lafferty, N., & Mannix McNamara, P. (2023). The Impact of Transformational School Leadership on School Staff and School Culture in Primary Schools—A Systematic Review of International Literature. *Societies* , 13 (6). <https://doi.org/10.3390/soc13060133>
- Woodcock, S., Sharma, U., Subban, P., & Hitches, E. (2022). Teacher self-efficacy and inclusive education practices: Rethinking teachers' engagement with inclusive practices. *Teaching and Teacher Education* , 117 , 103802. <https://doi.org/10.1016/j.tate.2022.103802>