



Strategic Integration of the Integrated Planning and Management Model (MIPG) and ISO 9001:2015 to Strengthen Quality in Public Educational Management in Colombia

Articulación estratégica del Modelo Integrado de Planeación y Gestión (MIPG) y la NTC ISO 9001:2015 para el fortalecimiento de la calidad en la gestión educativa pública en Colombia

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Abstract

Educational quality in Colombia faces persistent challenges in coverage, equity, and learning outcomes. This study analyzes the strategic articulation between the Integrated Planning and Management Model (MIPG), a mandatory framework, and the Colombian Technical Standard NTC ISO 9001:2015, a voluntary certification, as complementary tools to optimize public educational management. Through a reflective-documentary approach, regulatory frameworks, specialized literature, and practical cases were reviewed, including experiences in the Secretariats of Education of Meta, Montería, and Bello (Antioquia). Results show improvements in six dimensions: administrative, pedagogical, human talent, control and transparency, organizational culture, and sustainability. The discussion highlights the feasibility of integration, its benefits and limitations, and proposes strategic actions to consolidate it. Conclusions emphasize the need for committed leadership, personnel

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stability, sustained resources, and continuous training to ensure successful implementation. This article proposes that integrating MIPG and ISO 9001:2015 should be seen not as an administrative burden, but as a strategic opportunity to transform public educational management and raise quality standards.

Keywords: educational management, ISO 9001, MIPG, quality, public sector.

Resumen

La calidad educativa en Colombia ha sido un objetivo estratégico desde la Ley 115 de 1994, pero persisten brechas en equidad, pertinencia y resultados de aprendizaje, este artículo analiza la articulación entre la NTC ISO 9001:2015 y el Modelo Integrado de Planeación y Gestión (MIPG) como estrategia para fortalecer la gestión educativa pública, el objetivo es examinar avances, limitaciones y oportunidades de esta integración, la metodología utilizada fue cualitativa y reflexivo-documental, con revisión normativa, bibliográfica y análisis de casos en municipios como Meta, Montería y Bello, complementada con la experiencia profesional del autor. Los resultados muestran que la integración mejora la planeación estratégica, fortalece el control interno, optimiza procesos pedagógicos y fomenta la cultura de mejora continua, sin embargo, enfrenta retos como resistencia al cambio, restricciones presupuestales y rotación de directivos, la discusión resalta que el MIPG aporta el marco regulatorio y estratégico obligatorio, mientras la ISO 9001:2015 introduce estándares internacionales, enfoque por procesos y metodología de mejora continua. Se concluye que esta articulación es viable y necesaria para lograr sistemas educativos más eficientes, transparentes y centrados en el aprendizaje, proponiendo acciones estratégicas y de política pública para su implementación efectiva.

Palabras clave: calidad educativa, ISO 9001:2015, Modelo Integrado de Planeación y Gestión, gestión escolar, mejora continua

Introduction

Educational quality is one of the strategic pillars for the social, economic, and cultural development of any nation, and in the case of Colombia, it has been a central focus of public policy since the enactment of Law 115 of 1994, known as the General Education Law. This regulatory framework established the foundations for guaranteeing comprehensive, relevant, and quality education for all citizens, regardless of their social, geographical, or economic status. However, despite advances in coverage and access, significant challenges remain in terms of equity, curriculum relevance, administrative efficiency, and, above all, learning outcomes as measured by standardized tests such as SABER, PISA, or internal diagnostic assessments.

Data reported by the Ministry of National Education and international organizations such as UNESCO and the OECD show notable gaps between the goals set and the achievements attained. For example, the 2018 PISA results placed Colombia below the OECD average in reading, mathematics, and science, revealing the need to strengthen the training and administrative processes that support the education system. This situation has prompted public institutions to seek innovative mechanisms to improve their management, optimize resources, and generate value for the educational community.

In this context, the implementation of Quality Management Systems (QMS) has established itself as a viable strategy for increasing institutional efficiency and ensuring continuous improvement. Among the most recognized models, the Colombian Technical Standard NTC ISO 9001:2015 stands as an international benchmark for process management, results-focused leadership, and user satisfaction. Although initially designed for the industrial and service sectors, its application in the education sector has shown tangible benefits, such as the standardization of procedures, the traceability of information, and the generation of objective indicators for decision-making.

On the other hand, the Integrated Planning and Management Model (MIPG), adopted in Colombia through Decree 1499 of 2017, constitutes a mandatory public policy for all state entities. The MIPG integrates different institutional management and performance policies, seeking to align strategic planning, human talent

management, internal control, and accountability within a single coordinated framework. Unlike ISO 9001:2015, which is voluntary and certifiable by an accredited body, the MIPG is a regulatory mandate that must be complied with.

The central hypothesis guiding this work is that the strategic articulation between NTC ISO 9001:2015 and the MIPG can generate synergies that strengthen both administrative and pedagogical processes in public educational institutions. This integration would allow for the unification of conceptual frameworks, the optimization of resources, the minimization of reprocessing, the enhancement of transparency, and, above all, the alignment of institutional management with international quality standards and the requirements of the Colombian State.

The relevance of this study lies in the fact that, although there are isolated studies on the application of ISO 9001:2015 in education (Romero Berrío, 2019; Montes Miranda et al., 2018) and studies on the MIPG as a public management policy, there are few analyses that address their integration into a joint operational framework. This academic and practical gap limits the possibility of public educational institutions adopting robust management models that transcend formal compliance and become true drivers of quality.

Likewise, this article is framed within a reflective-documentary approach that combines a review of specialized literature, normative analysis, and the author's professional experience in the Secretariat of Education of Bello (Antioquia). This approach allows not only to describe the current state of implementation of both models, but also to propose concrete actions for their effective articulation in the Colombian context.

In summary, the purpose of this work is to critically and proactively analyze the articulation between the MIPG and NTC ISO 9001:2015 as a tool to improve the quality of public education management in Colombia. It is proposed that this integration is not only desirable but necessary to face the challenges posed by education in the 21st century, characterized by globalization, technological acceleration, cultural diversity, and society's growing demand for accountability.

Methodology

This study was developed using a reflective-documentary qualitative approach, which is appropriate when the objective is to understand and analyze institutional and regulatory phenomena from a critical perspective, based on the analysis of existing information and the reasoned interpretation of secondary data (Hernández Sampieri et al., 2022). This approach allows for the identification of patterns, gaps, and opportunities for improvement based on the triangulation of various sources of information, integrating the empirical component derived from the author's professional experience.

The study design was structured in four sequential and complementary phases:

Regulatory review:

The main legal and technical frameworks applicable to public education management in Colombia were compiled and analyzed. This included:

Laws and decrees: Law 115 of 1994 (General Education Law), Decree 1075 of 2015 (Single Regulatory Decree for the Education Sector), and Decree 1499 of 2017 (adoption of the MIPG).

Technical standards: NTC ISO 9001:2015, ISO 21001:2018 (management systems for educational organizations) and MIPG implementation guides published by the Administrative Department of Public Service (DAFP).

Related public policies: 2016–2026 National Ten-Year Education Plan and quality management policies of the Ministry of National Education (MEN).

A systematic search was conducted in academic databases such as Scopus, Redalyc, Dialnet, and Google Scholar, using combinations of keywords in Spanish and English, such as "educational management," "ISO 9001 in education," "Integrated Planning and Management Model," and "educational quality in the public sector."

Publications from the last ten years were prioritized to ensure the information was up to date.

Documents from international organizations such as UNESCO, the World Bank, and the OECD were also included, providing comparisons and global guidelines on school management.

Experiences of implementing ISO 9001:2015 and/or the MIPG in educational institutions in different Colombian territories were examined:

Meta: Experience of the Meta Department of Education in certifying administrative and pedagogical processes under ISO 9001.

Montería: Project to link the MIPG with municipal educational planning processes.

Bello (Antioquia): Case study derived from the author's direct experience, which served as practical input for identifying achievements, difficulties, and lessons learned.

Professional reflection:

The author's work experience as a specialist in Integrated Management Systems at the Bello Education Secretariat was incorporated, which allowed for a comparison of theoretical findings with institutional practice. This input enriched the interpretation of results and the formulation of contextualized recommendations.

The following techniques were applied to process and organize the information:

Normative analysis matrix: A comparative table was constructed to identify points of convergence and divergence between the MIPG and ISO 9001:2015, classifying requirements by categories such as leadership, planning, resource management, operation, performance evaluation, and improvement.

Thematic analysis: Bibliographic and documentary information was organized into thematic areas (administrative, pedagogical, human talent, accountability, organizational culture), allowing for a more accurate interpretation of the findings.

Example of data for radar chart:

Leadership: 100%

Planning: 80%

Resource management: 100%

Operation: 100%

Performance evaluation: 100%

Improvement: 100%

Example of data:

Administrative: 25%

Pedagogical: 20%

Human talent: 20%

Accountability: 15%

Organizational culture: 20%

Triangulation of sources: The data obtained from regulations, academic literature, and case studies were compared, seeking consistency and internal validity in the results.

Table 1. Regulatory analysis matrix: MIPG vs. ISO 9001:2015

| Categoría | Requisito MIPG | Requisito ISO 9001:2015 | Convergencia / Divergencia |
|----------------------------|--|---|----------------------------|
| Liderazgo | Liderazgo y compromiso de la alta dirección | Liderazgo y compromiso de la alta dirección (cláusula 5.1) | Convergencia total |
| Planeación | Planes estratégicos y de acción alineados con el Plan Nacional | Planificación de la calidad y objetivos (cláusulas 6.1-6.2) | Convergencia parcial |
| Gestión de recursos | Administración eficiente de recursos físicos y financieros | Gestión de recursos (cláusula 7.1) | Convergencia total |
| Operación | Procedimientos institucionales documentados | Operación y control de procesos (cláusulas 8.1-8.5) | Convergencia total |

| Evaluación del desempeño | Evaluación de indicadores y seguimiento | Monitoreo, medición, análisis y evaluación (cláusula 9.1) | Convergencia total |
|--------------------------|---|---|--------------------|
| Mejora | Planes de mejora derivados de auditorías internas | Mejora continua (cláusula 10.3) | Convergencia total |

Table 2. *Thematic analysis of the information*

| Eje temático | Principales hallazgos | Ejemplo de aplicación |
|------------------------|---|-----------------------|
| Administrativo | Optimización de procesos de matrícula y planeación estratégica | Meta y Bello |
| Pedagógico | Alineación de indicadores académicos con planes de mejoramiento | Montería |
| Talento humano | Estandarización de inducción y capacitación, alineación con evaluación de desempeño | Bello |
| Rendición de cuentas | Mejora en calidad de informes y trazabilidad documental | Meta |
| Cultura organizacional | Mayor participación y comunicación interna, comités de calidad escolar | Bello |

Interpretative synthesis: Narrative summaries were prepared that integrate the findings into a reflective analysis framework, with an emphasis on their applicability to the Colombian context.

The scope of the study is mainly propositional and analytical, aimed at formulating guidelines for the integration of MIPG and ISO 9001:2015 in public educational institutions. No direct quantitative measurements or large-scale surveys were applied, which constitutes a limitation. However, this restriction was offset by an exhaustive analysis of the literature and the incorporation of real experiences documented and lived by the author.

Results

Documentary analysis and review of experiences identified relevant results regarding the articulation of the Integrated Planning and Management Model (MIPG) and NTC ISO 9001:2015 in the context

of public education management in Colombia. The findings are presented below, organized into six main dimensions, in order to offer a comprehensive view of the potential and actual impact of this integration.

The simultaneous implementation of the MIPG and ISO 9001:2015 led to the optimization of administrative processes, especially in the planning, monitoring, and evaluation of activities.

In the municipality of Meta, for example, ISO 9001 certification enabled the digitization of school enrollment and registration processes, reducing service times by 40% and improving case traceability.

In Bello, integration facilitated the development of institutional action plans aligned with the goals of the Municipal Development Plan and the MIPG indicators, generating a strategic coherence that had not previously been achieved in a systematic manner.

The use of management tools such as risk matrices, integrated timelines, and control panels not only improved operational efficiency but also ensured that actions were carried out within the established deadlines and budgets.

In the pedagogical sphere, the articulation of both models made it possible to align academic goals with measurable quality indicators.

In Montería, for example, indicators derived from the ISO 9001 process management approach were adopted to measure the effectiveness of school reinforcement programs, linking these results to the teacher performance evaluation established in the MIPG.

In Bello, the incorporation of these indicators made it possible to identify performance gaps in specific areas (mathematics and critical reading) and to generate pedagogical improvement plans with quarterly follow-ups.

The result was greater consistency between administrative planning and educational goals, preventing efforts from being scattered and promoting data-driven decision-making.

The human talent management component showed substantial improvements, particularly in the induction, training, and performance evaluation processes.

With the adoption of ISO 9001:2015, induction programs were standardized to ensure that all new members of the educational community receive clear information about institutional policies, procedures, and objectives.

The MIPG, for its part, provided tools to link performance evaluation to the institution's strategic objectives, strengthening staff commitment to continuous improvement.

However, a persistent challenge is the high turnover of management and teaching staff, which affects the continuity of improvement processes. This finding coincides with that reported by Montes Miranda et al. (2018), who warn that the sustainability of a management system depends largely on the stability of human resources.

The integration of the two models also had a positive impact on institutional accountability and transparency.

The quality and consistency of reports to control entities such as the Comptroller's Office and the Attorney General's Office were improved, avoiding recurring observations due to documentary inconsistencies.

The traceability of decisions improved thanks to the adoption of standardized formats and digital repositories, which increased the educational community's confidence in institutional management.

The ISO–MIPG articulation promoted a more robust culture of quality, characterized by:

- Greater staff participation in improvement processes.
- Increased effective internal communication.
- Integration of self-assessment practices into the work routine.

In Bello, for example, the joint implementation led to the creation of school quality committees, where teachers, administrators, and parent representatives discuss progress and propose improvements, fostering collective ownership of the system.

Although the integration of the models has demonstrated tangible benefits, the results indicate that to ensure their sustainability, it is necessary to:

Ensure stable financial resources to maintain certification and process monitoring.

Strengthen ongoing staff training in process management and strategic planning.

Develop inter-institutional partnerships to share best practices and optimize resources.

These findings suggest that integration not only contributes to internal efficiency but can also become a catalyst for improving educational quality in a sustained manner over time, provided that the necessary political, financial, and technical support is in place.

The results obtained show that the strategic articulation between the Integrated Planning and Management Model (MIPG) and NTC ISO 9001:2015 offers significant advantages for public education management in Colombia, especially in terms of operational efficiency, strategic coherence, and the creation of a culture of quality. However, these benefits are not automatic: they require planned implementation, sustained resources, and leadership committed to continuous improvement.

The international literature shows similar experiences in which the combination of standardized management models and national regulatory frameworks has enhanced educational quality:

In Spain, the integration of the UNE-EN ISO 9001 standard with the autonomous regional educational evaluation systems has improved student and family satisfaction rates (Martínez-Torres & Toral, 2019).

In Chile, the combination of the ISO 21001:2018 standard with the standards of the National School Education Quality Assurance System has led to sustained improvements in institutional planning and learning outcomes (Chilean Ministry of Education, 2021).

In Mexico, the joint implementation of ISO 9001 and regulations from the Ministry of Public Education has facilitated the certification of administrative processes and reduced the time required for school procedures (González & Paredes, 2020).

These examples confirm that the integration of international and national frameworks is feasible and beneficial, provided that they are adapted to local circumstances and accompanied by staff training and awareness-raising strategies.

The Colombian experience analyzed suggests that the Ministry of National Education could consider:

Issuing official guidelines for the integration of the MIPG with ISO standards applicable to education, in order to avoid duplication of efforts and optimize resources.

Encouraging ISO 9001 certification in public educational institutions, especially those with the largest number of students or critical management indicators.

Strengthening inter-institutional coordination between the DAFP, the MEN, and the Secretaries of Education to share tools, indicators, and best practices.

Identified strengths

- The integration of ISO and MIPG enhances:
- The traceability of decisions and actions, thanks to standardized documentation.
- Strategic alignment, as both models require institutional objectives to be clearly defined and measured.
- A culture of continuous improvement, promoted by the PDCA (Plan–Do–Check–Act) cycle and reinforced by MIPG control mechanisms.

Limitations encountered

- Despite its benefits, significant challenges were identified:
- Resistance to change by some members of the educational community, who perceive management systems as bureaucratic.
- Budget constraints that make it difficult to hire specialized consultants or update certifications.

Conclusions

The analysis carried out shows that the strategic articulation between the Integrated Planning and Management Model (MIPG) and NTC ISO 9001:2015 constitutes a viable, relevant, and highly beneficial alternative for strengthening public education management in Colombia. This integration not only optimizes administrative and pedagogical processes, but also consolidates an organizational culture oriented toward continuous improvement, transparency, and accountability.

In the administrative sphere, there was greater consistency between institutional planning and the strategic objectives defined by the State, resulting in more efficient resource management and greater responsiveness to educational challenges. In the pedagogical sphere, the alignment of indicators and processes contributed to more informed decision-making and the implementation of targeted improvement plans.

However, for this coordination to be consolidated as a sustained policy and not a temporary initiative, it is essential that educational institutions have:

- Committed leadership on the part of educational managers and authorities.
- Stability of human talent, reducing turnover to ensure continuity of processes.
- Sufficient financial and technical resources to maintain and update management systems.
- Ongoing training in process management, internal control, and continuous improvement.

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