

Risk Management in Teachers ‘Occupational Health: A conceptual vision from the new public management

Johanna Elizabeth Fajardo Vargas^{1*} <https://orcid.org/0009-0000-3710-1049>

Dominga Ernestina Rodríguez Ángulo² <https://orcid.org/0000-0001-8022-2428>

Gladys Lola Luján Johnson¹ <https://orcid.org/0000-0002-4727-6931>

¹Universidad César Vallejo - Perú. Perú

²Universidad Técnica Estatal de Quevedo. Ecuador

*Autor para la correspondencia: jfajardov@ucvvirtual.edu.pe

ABSTRACT

Risk management in university teaching occupational health has undergone a substantial paradigmatic transformation from the perspective of the New Public Management. This review analyzes the conceptual evolution integrating three decades of theoretical development, evidencing the transition from traditional bureaucratic models to approaches based on efficiency and results-based management. The analysis reveals how these principles have redefined the conceptualization of psychosocial, ergonomic and organizational risks in the university context. An integrative framework is proposed that articulates continuous evaluation mechanisms, adaptive systems and specific determinants of faculty health, based on recent empirical evidence.

Keywords: Public administration; Occupational health; University teaching staff; Administrative reform

Introduction

Risk management in teacher occupational health has undergone a substantial paradigmatic transformation in its theoretical conceptualization during the last three decades.

Current university teaching work faces complex challenges that have a significant impact on occupational wellbeing.

As Fajardo *et al.* (2024) point out; the teaching workload has diversified significantly in the 21st century due to globalization and technological advances, demanding new work commitments that require urgent attention.

New Public Management (NPM) has emerged as a paradigm that seeks to optimize the management of public occupational health services. The implementation of these new managerial principles is not without challenges, particularly in the need to balance efficiency with equity in access to services and the importance of having robust information systems for decision making. (Bravo-Cedeño & Vegas-Meléndez, 2023)

This approach has introduced new dimensions in the understanding and management of occupational risks in the educational setting.

However, a review of the literature reveals important limitations in the current approach to occupational risk management in teaching.

In this regard, authors such as Palencia-Sánchez and Riaño-Casallas (2023) highlight the insufficient integration between the social determinants of health and the principles of efficiency and management by results characteristic of the NGP.

In addition to the above, there is a notable absence of conceptual frameworks that effectively integrate traditional occupational health perspectives with emerging public management paradigms.

Hence, the essential objective of this paper is to analyze the conceptual evolution of risk management in teachers' occupational health from the perspective of the New Public Management, in order to propose an integrative conceptual framework that responds to the contemporary challenges of the higher education sector.

Development

The specific objectives of this research are aimed at examining the historical evolution of the theoretical foundations of occupational risk management for teachers and identifying the main contributions of the New Public Management in the conceptualization and operationalization of risk management in teachers' occupational health.

Based on the most relevant findings, a conceptual framework that integrates the traditional perspectives of occupational health with the principles of the New Public Management is proposed and guidelines are established for the practical implementation of the proposed conceptual framework in the contemporary university context.

To fulfill this purpose, a methodological algorithm was followed, starting with an initial theoretical review that adopts a hermeneutic-interpretative approach that facilitates the understanding of the evolution and transformation of the fundamental theoretical frameworks in occupational health risk management in university teaching.

This approach allows the integration of multiple epistemological perspectives necessary for the construction of knowledge in this field. (Luna, 2024)

The literature selection was carried out through a systematic process that considered four fundamental criteria. First, the theoretical relevance for the understanding of risk management in teacher occupational health, prioritizing seminal authors such as Almirall and Hernández (2017) who established the basis of the biologicist approach and its evolution towards more integrative perspectives, and contemporary contributions such as Hernández *et al.* (2022) who provide the vision of complex adaptive systems.

The temporal scope covered the period 1960-2024 to capture the complete conceptual evolution of the field, being structured in three stages: historical fundamental developments (1960-2000), paradigmatic evolution (2000-2020), and recent theoretical advances (2020-2024). This last stage constitutes 70% of the references analyzed, reflecting the emphasis on contemporary understanding of risk management in teacher occupational health.

Thematic relevance was ensured through the inclusion of research analyzing the transformation of public occupational health services, such as the studies by Chica-Vélez and Salazar-Ortiz (2020) on reform in public educational management, and the analyses by Bravo-Cedeño and Vegas-Meléndez (2023) on the application of managerial principles in health services.

Academic rigor was ensured through the selection of publications in high impact indexed journals and the inclusion of works that examine the integration between social determinants of health and principles of New Public Management, such as the studies by Luna (2024).

Historical evolution of the concept of Occupational Health Risk Management in Teaching Occupational Health

The theoretical research methods applied made it possible to analyze the historical evolution of the concept of Risk Management in Teachers' Occupational Health.

In this regard, it is important to highlight that the conceptual evolution of risk management in teachers' occupational health has undergone a significant transformation in its theoretical and epistemological foundations. Luna (2024) and other authors agree that this evolution reflects the need to integrate the social determinants of health with the principles of the New Public Management, especially in relation to efficiency, performance measurement and accountability in the educational context.

Traditional Period (1960-1980):

The historical foundation of this paradigm dates back to pioneering contributions on the work-health relationship. The initial focus, as Gómez (2021) points out, was mainly on the prevention of occupational accidents and diseases, reflecting a limited view of teachers' well-being.

Bronfenbrenner's ecological theory emerged as a significant conceptual framework, providing a multilevel perspective that allowed analyzing the interconnection between individual and social factors (Hunter & Titze, 2009). However, as Bottalico *et al.* (2014) identify, the paradigm maintained a predominantly reactive approach, with limited consideration of organizational factors.

During this period, Taylor's scientific management established principles of control and standardization that, although necessary, were insufficient for a comprehensive understanding of teacher occupational health (Juang, 1998).

Research by Hunter and Titze (2009) revealed that teachers used their voice up to 30% of working time, while work developed by Rollins *et al.* (2019) evidenced the critical influence of classroom acoustics.

Also Hunter *et al.* (2016) provided the gender perspective, documenting higher incidence of vocal disorders in female teachers.

Transition Period (1980-2000):

The transition to the systemic paradigm marked a fundamental turning point with the incorporation of Bertalanffy's general systems theory.

Nunes (2014) highlights how the integration between sociology and medicine enabled a broader understanding of teacher health. Santos and Marques (2013) identified recurrent problems such as obesity, stress and musculoskeletal disorders, evidencing the need for a more comprehensive approach.

Almirall and Hernandez (2017) document the evolution from the initial biologicist approach to more integrative perspectives. Checkland in the year 1981 contributed the recognition of the complex interrelationships between different factors affecting occupational health, overcoming the reductionism characteristic of the traditional paradigm.

Contemporary Period (2000-present):

This paradigm represents the most sophisticated evolution in the understanding of occupational risk management. Hull (2022) bases adaptive management on experiential learning, while Almécija emphasized the complexity and nonlinearity characteristics of adaptive systems.

Govedar *et al.* (2023) stress the importance of continuous monitoring for real-time adaptation. Yuen Ang (2024) discusses the coevolution of economic and political systems, while Tsyganov (2024) provides perspectives on optimization by machine learning.

Ferreira *et al.* (2024) critically note that merely adopting a systems perspective is insufficient without considering the adaptive and emergent nature of educational organizational systems. Hernandez *et al.* (2022) emphasize that educational systems are inherently nonlinear and subject to constant evolution.

Contributions of New Public Management in the Management of Occupational Health Risks in Teachers' Occupational Health

New Public Management (NPM) has emerged as a transformative paradigm in the management of teachers' occupational health, introducing principles of governance and

governance that have redefined the approach to occupational risks in the university context. This new perspective has generated fundamental changes at several levels:

Institutional Framework and Policies:

The New Public Management in Occupational Health arises in a context of constant evolution of States and societies, where traditional public management models have been overtaken.

This new perspective, based on the principles of governance and governance, seeks to optimize the management of public occupational health services. By adopting tools and approaches from business management, NPM seeks to improve the efficiency, effectiveness and quality of services, while encouraging stakeholder participation. However, it is essential to consider the specific context of each country and region when implementing these reforms, in order to avoid an indiscriminate application of imported models (León, 2016).

Management and Evaluation Systems:

The research findings, synthesized in the axial matrix, reveal significant patterns in the application of the principles of new public management in health. These results evidence the growing importance of managerial and market-oriented approaches in the administration of health services.

The search for efficiency, quality and user satisfaction has become an imperative in this context. However, the data also suggest that the implementation of these new practices is not without challenges, such as the need to balance efficiency with equity in access to services and the importance of having robust information systems for decision making (Bravo-Cedeño & Vegas-Meléndez, 2023).

Focus on Risk Management:

In this framework, public policies, institutions and citizen participation interact to build equitable and sustainable social development. Public management is conceived as a multidimensional system that promotes collaboration and dialogic between different disciplines and sectors (López, 2017).

The NGP proposes a transformation in the management of public services, including health education, with the aim of providing more efficient and higher quality services (Chica-Vélez & Salazar-Ortiz, 2020).

According to Parcerisa (2016), the NGP seeks to establish feedback mechanisms with users, i.e., students and health professionals, to adapt educational programs to their real needs.

Integration of Systems and Processes:

The epistemological basis for this change, according to Luna (2024) is based on the need to integrate the social determinants of health (SDH) with the principles of New Public Management, especially in relation to efficiency, performance measurement and accountability in the educational context. Morgado-Valenzuela and Sanchez-Torres (2024) argue that this integration has allowed for a more sophisticated understanding of how institutional and organizational factors influence teacher occupational health.

Knowledge Management and Continuous Improvement:

The NGP has introduced the need to develop knowledge management systems that facilitate evidence-based decision making. As pointed out by Gonzalez *et al.* (2022), this has enabled the development of high-performance work systems that incorporate periodic ergonomic assessments and continuous improvement processes in the management of teachers' occupational health.

Integrating Conceptual Framework

Key Dimensions of the New Public Management in Teacher Occupational Risk Management

The New Public Management has fundamentally transformed the conceptualization of risk management in teachers' occupational health.

The epistemological basis of this change, according to Luna (2024), is based on the need to integrate the social determinants of health with the principles of efficiency, performance measurement and accountability in the educational context. Morgado-Valenzuela and Sanchez-Torres (2024) argue that this integration has allowed for a more sophisticated understanding of how institutional and organizational factors influence teacher occupational health.

The NGP has introduced a multilevel perspective that, according to Palencia-Sánchez and Riaño-Casallas (2023), is embodied in three fundamental structures: institutional support structures translated into regulatory frameworks and preventive policies; adaptive

management systems that provide dynamic risk response mechanisms; and specific health determinants that consider the contextual factors of the educational environment.

The research findings, as Bravo-Cedeño and Vegas-Meléndez (2023) point out; reveal significant patterns in the application of managerial principles in health care, where the search for efficiency, quality and user satisfaction has become an imperative.

In the contemporary university context, Fajardo *et al.* (2024) identify an organizational structure that operates at three critical interconnected levels: the macro level that encompasses institutional policies and regulatory frameworks; the meso level that comprises risk identification and assessment processes; and the micro level that addresses individual and group factors. This multilevel structure is strengthened by the development of high-performance work systems that, according to González *et al.* (2022), incorporate periodic ergonomic assessments, integrated information systems and standardized action protocols.

The transformation proposed by the NGP, according to Chica-Vélez and Salazar-Ortiz (2020), involves the establishment of feedback mechanisms with users, active participation of stakeholders and evidence-based decision making. Shaw *et al.* (2024) provide empirical evidence on the superior effectiveness of multidisciplinary interventions that integrate rigorous evaluation systems, scientifically validated protocols and continuous adaptation mechanisms.

This multidimensionality of NGP in teacher occupational risk management lays the foundation for an integrative conceptual framework that, as De Lange *et al.* (2024) point out, recognizes the complex and dynamic nature of educational organizations.

The interrelationships among these dimensions create an adaptive system that responds to both immediate needs and emerging challenges in university faculty occupational health. This integrated approach facilitates not only the identification and prevention of risks, but also the active promotion of teacher well-being in the contemporary university context.

Practical applications of the Integrative Conceptual Framework

The practical application of the integrative conceptual framework in teacher occupational risk management is structured in three levels of intervention that operate synergistically to ensure the effectiveness of preventive and corrective measures, based on empirical evidence and best practices.

Institutional and Policy Level

At the institutional and policy level, it is important to bear in mind that universities should develop and implement policies that give value and support to the teaching profession.

Related to the topic, Fajardo *et al.* (2024) state that this requires developing preventive policies and comprehensive projects supported by dialogic communicative guidelines between internal and external audiences. González *et al.* (2022) complement this vision by emphasizing the implementation of high-performance work systems that incorporate periodic ergonomic evaluations.

At this level, Chica-Vélez & Salazar-Ortiz (2020) argue that the NGP proposes a transformation in the management of educational public services that must include effective feedback mechanisms. According to León (2016) this transformation, should consider the specific context of each institution to avoid the indiscriminate application of imported models.

Organizational and Operational Level

The operational dimension requires the establishment of integrated assessment systems and action protocols.

Regarding this issue, Shaw *et al.* (2024) allude that these systems should facilitate the early identification of risks and the timely implementation of preventive measures. Bravo-Cedeño and Vegas-Meléndez (2023) add the need to balance efficiency and equity in prevention services.

Other authors such as Arru (2023) identify critical elements in organizational management such as effective communication, strategic alignment and interdepartmental collaboration complemented by other researchers who highlight the importance of integrating technological and socioeconomic aspects in the University work environment (Llamocca & Velarde, 2017)

Individual Level and Professional Development

At the individual level, we agree with the criteria of Mejía *et al.* (2023) and Góngora and De Lille (2024) which emphasizes the development of psychological and organizational support programs.

Vera *et al.* (2023) identify the need to develop specific competencies in occupational health and Díaz-Patiño and Anaya-Velasco (2023) point out the importance of addressing ergonomic and environmental factors.

On the other hand, Oyarzún *et al.* (2022) emphasize that working conditions should consider the emotional nature of teaching work. Castilla *et al.* (2021) add that the psychological demands inherent to the profession require specific coping strategies and institutional support.

According to Vandebroek *et al.* (2024), the effective implementation of these practical applications requires scientifically validated protocols and rigorous evaluation systems.

For their part, Palencia-Sánchez and Riaño-Casallas (2023) highlight the importance of institutional support structures and adaptive systems that respond to the specific needs of the university context.

Conclusions

This theoretical review made it possible to document the historical evolution through three fundamental periods: traditional (1960-1980), transition (1980-2000) and contemporary (2000-present), evidencing the transition from reactive approaches to more comprehensive paradigms.

Among the key contributions of NPM identified are the incorporation of efficiency and results-based management principles (Bravo-Cedeño & Vegas-Meléndez, 2023); the development of adaptive management systems and institutional support structures (Palencia-Sánchez & Riaño-Casallas, 2023); continuous evaluation mechanisms and robust information systems for decision making (León, 2016); the transformation in the management of educational public services with effective feedback mechanisms (Chica-Vélez & Salazar-Ortiz, 2020); and the integration of perspectives that promote collaboration across disciplines and sectors (López, 2017).

The development of the proposed integrative conceptual framework articulates the psychosocial dimension, evidenced primarily by Fajardo *et al.* (2024) and complemented by Díaz-Patiño & Anaya-Velasco (2023) and Castilla *et al.* (2021) who identify the

emotional exhaustion and psychological demands inherent to the teaching profession; the ergonomic dimension, supported by Fajardo *et al.* (2024), Vera *et al.* (2023) and Bornacelli *et al.* (2023) who analyze musculoskeletal problems and physical conditions of the work environment; and the organizational dimension, supported by Fajardo *et al.* (2024), Llamocca & Velarde (2017) and Arru (2023) who address the technological, business and socioeconomic aspects of university work.