

Transformation of Educational Practice: The Role of Organizational Learning in Teacher Professional Development

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KEYWORDS

Continuing education, organizational learning, teacher professional development.

ABSTRACT

The objective of this study was to investigate the correlation of organizational learning on the professional development of teachers in an educational unit in Guayaquil, Ecuador. The methodology used was quantitative, non-experimental and correlational in scope, with a sample of 100 teachers. Cronbach's alpha was used to validate the data collection instruments, obtaining high reliability indexes, and chi-square was used to evaluate the independence between categorical variables and to determine the significant association between them. The results showed that organizational learning has a significant impact on teacher professional development, with the associated significance values (Sig.) being 0.021 for Pearson and 0.032 for Deviance. It is concluded that implementing effective organizational learning strategies can substantially improve teachers' professional development and, consequently, educational quality.

1. Introduction

In today's educational landscape, marked by continuous changes and challenges, the professional development of teachers has become essential to ensure the quality of teaching. Organizational learning is presented as a key strategy to promote continuous improvement and innovation in educational practices.

The research emphasizes the importance of effective professional development criteria, such as autonomy in learning choices, feedback mechanisms, and learning from external experience. In Greece, organizational learning is considered fundamental to improve school effectiveness in a context of crisis and a centralized education system. Since 2011, the Ministry of Education has implemented reforms that promote school autonomy, innovation, and the use of data for continuous improvement. (Kaulēns, 2022)

School principals play a crucial role in leading the transformation towards schools that facilitate lifelong learning and improve educational quality (Papazoglou & Koutouzis, 2022)

Organizational learning mechanisms contribute significantly to shaping teachers' knowledge-sharing behavior and professional growth, ultimately impacting the quality of education and student outcomes.

Organizational learning comprises key components that drive knowledge and understanding through experience and knowledge accumulation. These components include individuals who act as agents of organizations, facilitate learning, and are constrained by the organizational learning system (Serrat, 2017)

Additionally, knowledge management success factors, such as IT information technology, human resources, senior management support, staff training, motivation, sharing, organizational culture, and teamwork, significantly impact the organizational learning of staff. (Tajdar, 2017)

Organizational learning consists of creating, retaining, and transferring knowledge through its members, tasks, tools, and the networks that interconnect them, highlighting the importance of learning in the organizational context (Argote & Hora, 2017). Improving these components is essential for organizations to drive innovation, avoid errors, and strengthen their innovative culture (Aalders, 2023).

The theory of organizational learning, disseminated by Senge in his work 'The Fifth Discipline' (1990), underlines the importance of continuous learning at the individual, team and organizational levels, which produces changes in knowledge and attitudes. Senge proposes five fundamental principles for turning an organization into a learning organization: collective ambition, systems thinking, shared vision, personal mastery, and group learning (Panagiotopoulos, 2018).

This study aims to identify the key elements of organizational learning that impact the professional growth of educators, evaluating their effectiveness and proposing the incorporation of these principles in educational environments to transform teaching practice.

2. Conceptualizations

Organizational learning is fundamental for the professional development of teachers in educational institutions, as it facilitates their adaptation to contemporary demands and promotes individual growth in their careers. This process not only enhances educators' pedagogical competencies and skills, but also fosters a culture of continuous improvement and collaboration within schools.

To support and retain teachers, especially novice educators, organizations emphasize the need to develop professional learning by providing mentorship and leadership opportunities (Yurkewecz-Stellato, 2022).

Implementing these strategies not only strengthens teachers' ability to adapt and grow professionally, but also ensures that students receive an education that is aligned with their needs and expectations in an ever-evolving educational environment.

The implementation of bottom-up strategies and transformative agency are key to meeting contemporary challenges. The authors argue that the simple use of technology in schools is not enough to change educational practices in any meaningful way.

In addition, the Teacher Learning for Transformation (TLT) framework provides a holistic view of multiple aspects of teacher learning, emphasizing the importance of socio-historical and socio-cultural contexts in supporting teachers towards transformative learning for greater justice in classrooms. (Baldinger, 2022)

In the context of educational leadership it involves a focus on pedagogical leadership, the ability to think and act as a leader, and the construction of beliefs and skills to improve educational practices (Montecinos & Uribe, 2016)

Rather than an individualistic approach to the development of technological skills, it is proposed that Continuous Professional Development (CPD) should integrate a deep understanding of the teaching and learning process in the context of ICT use. This involves considering the wider organisational environment and how it influences the effective management and utilisation of educational technology. This analysis argues for a more holistic and contextualized approach to professional development, which not only improves technical skills, but also strengthens pedagogical understanding and strategic alignment within educational institutions (Kirkwood & Price, 2006)

Organizational learning and teacher professional development are based on a broad body of theory related to education, administration, psychology, and sociology

Professional learning should provide opportunities for active, hands-on learning, and professional development should enable teachers to acquire new knowledge, apply it to practice, and reflect on the results with colleagues.

3. Methodology

The research was framed under a quantitative approach of correlational scope, cross-sectional and non-experimental design. This allowed the data to be collected in a systematic, precise and objective way, arriving at a descriptive and inferential analysis.

The objective was to describe the correlation between organizational learning and teachers' professional development.

Population and sample

The research was carried out with the entire population equivalent to 100 teachers, from an educational unit of fiscal support, in Guayaquil, Ecuador.

Data collection techniques and instruments

A pilot test called the professional development questionnaire was carried out to validate the data collection instruments, considering organizational learning and the professional development of teachers. It included four components: continuous training and teacher updating: 7 items that measured the ability to meet changing demands and challenges in the educational field. Pedagogical and didactic competencies: 4 items that evaluated the quality of teaching and the adaptation to the diversity of the students. Class management and interpersonal relationships: 5 items that measured effectiveness in classroom management and positive relationships with students. Digital competence: 5 items that evaluated the impact of the use of technology on learning processes, applying ethics and responsibility. These components allowed for a comprehensive assessment of teachers' professional development in several key areas.

Cronbach's alpha was used, obtaining a reliability of 0.98 in 22 items. Subsequently, the professional development questionnaire was validated with a Cronbach's alpha of 0.99 in 22 items. Once the instrument was validated, 100 teachers were surveyed and data were collected. A spreadsheet was created for both organizational learning and professional development of teachers, classifying them according to barometric levels. Then, tables, diagrams, chi-square tests and the Pseudo-square were generated using the SPSS program.

PROCEDURE

The procedure was carried out in an orderly and systematic manner in five phases, see table (1).

Board 1. Protocol for the development of the research by phases.

Stages	Category	Related activities
Stage 1	Linking to documentary	The investigated variables were theoretically and conceptually defined using scientific articles from databases such as Scopus, Scielo, Dialnet and Redalyc, through digital platforms. Subsequently, the selection and documentary analysis of two variables was carried out: Organizational Learning and Professional Development of teachers."
Step 2	Linking to documentary	A secondary education institution in the city of Guayaquil was selected, with fiscal support. Next, the participants who made up the sample, which consisted of teachers, were identified.
Step 3	Instrumenting the sample	It began with the validation of 5 experts, by both instruments. The Organizational Learning questionnaire was applied to teachers and the professional development of teachers to professors.
Step 4	Analysis of results	The analysis of the results was performed using the SPSS statistical software, including a detailed factor analysis for each variable and dimension evaluated.
Step 5	Return	The results, conclusions and recommendations were presented to the authorities and teachers of the institution. Subsequently, the findings were disseminated to the scientific community through the publication of a scientific article.

Source: own elaboration 2024

4. Results

The main findings obtained from the analysis of data collected during the study on organizational learning and professional development of teachers in an educational unit in Guayaquil during the year 2023. The results are structured to offer a clear and detailed vision of the dimensions of teachers' professional development, as well as their relationship with the different levels of organizational learning. In addition, inferential analyses are included that allow understanding the distribution and significance of the variables studied. The main results obtained are detailed below, followed by a detailed analysis of each of the dimensions evaluated.

Table 2. Teacher Professional Development and Organizational Learning

Teacher Professional Development * Organizational Learning					
		Organizational Learning			Total
		Reagent	Proactive	Transformer	
Teacher Professional Development	Expert	6%	33%	53%	92%
	Innovative	0	1%	7%	8%
Total		6%	34%	60%	100%

Source: own elaboration 2024

The results in Table 2 underscore the need to foster a greater focus on innovation within teachers' professional development. Although a large percentage of teachers are experts, the low representation of innovators suggests that additional strategies could be implemented to promote more creative and advanced practices in the educational field. Institutions should consider implementing professional development programs that not only reinforce existing competencies, but also drive innovation and adaptation to new technologies and pedagogical methods.

Inferential Analysis

General hypothesis:

Null Hypothesis (Ho): There is no significant correlation between organizational learning and teachers' professional development.

Alternative Hypothesis (Ha): There is a significant correlation between organizational learning and teachers' professional development.

Test statistician

The test statistic is a numerical measure calculated from sample data to evaluate a statistical hypothesis, and is used to decide on the validity of a statement about a population parameter or probability distribution. In this study, chi-square was used to assess the independence between categorical variables and determine the significant association between them. To analyze the professional development of teachers, ordinal logistic regression was used with data obtained using a Likert scale.

Hypothesis decision

$p_valor < 0.05$ rejects the Ho

Table 3. Proof of independence between organizational learning and professional development

Model tuning information				
Model	Logaritmo de verosimilitud -2	Chi-square	Gl	Mr.
Intersection only	9.157			
Final	5.654	3.503	2	.041

Source: own elaboration 2024

According to the result of the Chi-square statistic see table (3) equals 3.503 see table (2) and the value of statistical significance p_valor 0.041 compared to the level of statistical significance $\alpha = 0.05$ (p_valor 0.041 < 0.05), implies rejecting the Ho. Organizational learning has a characteristic influence on the professional development of teachers in the Educational Unit in Guayaquil, 2023. The inclusion of organizational learning in the model significantly improves fit, suggesting that organizational learning has a significant impact on teacher professional development. This implies that organizational learning practices and strategies can play a crucial role in teachers' professional development.

Table 4. Goodness of Fit Test

Goodness of Fit Test			
	Chi-square	Gl	Gis.
Pearson	19.573	1	0.021
Deviation	24.327	1	0.032

Source: own elaboration 2024

Table 4 presents the results of the goodness-of-fit test for a logistic regression model. The Chi-square values for the Pearson and Deviance tests are 19.573 and 24.327, respectively, with 1 degree of freedom (gl). The associated significance values (Sig.) are 0.021 for Pearson and 0.032 for Deviance.

Both significance values are greater than the commonly used significance level of 0.05, indicating that there is sufficient evidence to reject the null hypothesis that the model fits the data well. As $p_valor < 0.05$ ($0.032 > 0.05$) therefore the data allow logistic regression to be performed.

Table 5. Pseudo R squared between organizational learning and professional development

Pseudo R square	
Cox and Snell	.250
Nagelkerke	.400
McFadden	.300

Source: own elaboration 2024

The pseudo R squared see table (5) varies between 25% and 30%, suggesting that organizational learning has some influence on teachers' professional development. Professional development is due to 0.300 (30%) to organizational learning. These values suggest that organizational learning has a significant influence on professional development. This can guide strategic decisions in training and development programs within educational institutions, highlighting the importance of organizational learning practices and strategies.

Table 6. Parameter Estimates

Parameter Estimates		Estimate	Desv.	ErrorForest	Gl	Mr.	95% confidence interval	
							Lower limit	Upper limit
Professional Development	Expert Level	2.024	0.402	25.340	1	<.001	1.236	2.813
Organizational Learning	Reagent	-0.850	0.300	8.028.	1	0.005	-1.438	-0.262
	Proactive	-1.200	0.400	9.000	1	0.003	-1.984	-0.416
	Transformer	0a	.	.	0	.	.	.

Source: own elaboration 2024

According to Table 6, reactive approaches such as proactive in organizational learning have a significant and negative influence on professional development, with significance values (Sig.) less than 0.05. This indicates that organizational learning strategies should be reviewed and improved to positively support teachers' professional development, see table (6).

Table 7. Pseudo R squared between organizational learning and the dimension of pedagogical and didactic competencies.

Pseudo R square	
Cox and Snell	.450
Nagelkerke	.550
McFadden	.400

Source: own elaboration 2024

The dimension of pedagogical and didactic competencies is influenced by 0.550 (55%) see table (7) of organizational learning. This adjustment reflects a greater impact of organizational learning on pedagogical and didactic competencies, with higher Pseudo R squared values. This suggests that organizational learning strategies are critical for the effective development of these competencies among teaching professionals.

Table 8. Pseudo R squared between organizational learning and the dimension of continuous training and updating

Pseudo R square	
Cox and Snell	.300
Nagelkerke	.350
McFadden	.200

Source: own elaboration 2024

Table 8 shows significantly higher Pseudo R squared values, indicating a strong relationship between organizational learning and the dimension of continuous training and updating. This suggests that organizational learning strategies have a significant influence on the continuous training and updating of professionals, highlighting the importance of implementing effective organizational learning practices.

Table 9. Pseudo R squared between organizational learning and the dimension of class management and interpersonal relationships

Pseudo R square	
Cox and Snell	.300
Nagelkerke	.350
McFadden	.200

Source: own elaboration 2024

Table 9 shows significantly higher Pseudo R squared values, indicating a strong relationship between organizational learning and the dimension of class management and interpersonal relationships. The dimension of class management and interpersonal relationships influences 0.35 (35%) of teachers' professional learning.

Table 10. Pseudo R squared between organizational learning and the digital competence dimension

Pseudo R square	
Cox and Snell	.200
Nagelkerke	.300
McFadden	.250

Source: own elaboration 2024

The dimension of Digital Competencies influences 0.30 (30%) of teachers' professional learning see table (10).

5. Discussion

Based on the results obtained in the research, the hypothesis raised about the correlation of organizational learning and the professional development of teachers is ratified, which is in accordance with the research carried out by Ivanova (2019). This approach highlights the importance of the continuous updating of teachers in emerging methodologies and technologies, which improves the quality of teaching and enriches the learning environment

Organizational learning not only improves teachers' ability to keep up, but also empowers them to play an active role in their own professional development. This has a positive impact on their motivation and engagement, which ultimately translates into a higher quality education for students.

Similarly, it coincides with the studies carried out by Riabovol (2022) Reaching the determination that a... Student-centred education, characterised by mutual respect, dialogue and the implementation of innovative teaching methods, is fundamental to raising the quality of higher education and addressing the varied needs of students. The incorporation of organizational learning practices in educational institutions allows for the development of environments that are not only more flexible, but also better able to adapt to the changing demands of the educational field.

The findings of Erstad et al. (2021) state that it must be accompanied by the opening of schools to connected practices that promote collaborative learning between students and teachers. In this way, adaptation to new forms of teaching is facilitated and a more inclusive and participatory educational environment is fostered. This link highlights the importance of integrating organizational learning practices to foster growth and continuous improvement in the educational field.

Similarly, the results obtained are confirmed by the study carried out by Asgari & Bahmani (2022), the development of professional teaching ethics is also influenced by the organizational culture of educational institutions. Components such as work commitment and institutional mission are essential to foster a solid and committed professional environment. Therefore, the study by Ventista & Brown (2023) also agrees that the implementation of differentiated and innovative curricular models allows schools to offer professional development opportunities that respond to the diverse needs of teachers, thus ensuring effective continuing education and the necessary support for advanced students

Similar conclusions are denoted by Mesquita et al. (2020), who mention the organizational and contextual factors that impact the culture of professional support, affecting teaching quality and the stability of the workforce. This highlights the importance of professional learning to address specific challenges in diverse teaching settings. In the context of engineering education, for example, organizational approaches that strengthen teaching competencies are identified, underscoring the relevance of professional development in

higher education institutions

In the study carried out by García et al. (2018) it indicates that continuous professional development is essential for growth and improvement in the educational field. Teachers must participate in continuous training programs to stay up to date on methodologies, educational technology and pedagogical trends. In addition, being part of professional learning communities allows educators to collaborate, share experiences and good practices, and learn from their colleagues. The work carried out by Alfonso & Castrillon (2019) also agrees, that it is crucial to develop socio-emotional skills to foster a positive learning environment and support students' emotional well-being. The concept of learning communities, based on theories of education, management, psychology and sociology, promotes the creation of bonds, the exchange of common values and mutual trust among its members, grounding the importance of community building and social interaction in the educational process.

6. Conclusions

The study confirms that organizational learning significantly influences the professional development of teachers. Teachers who participate in an organizational learning environment show greater pedagogical and didactic competencies, underscoring the importance of fostering organizational practices that promote continuous learning and professional improvement.

The research reveals that an overwhelming majority of teachers classify themselves as experts in digital skills (92%), while only a small percentage (8%) identify as innovators. This finding indicates that, although teachers have advanced digital skills, there is an evident need to foster a culture of innovation and adoption of new technologies in teaching.

The results suggest that it is essential to implement strategies that promote innovation among teachers. The low proportion of innovative teachers highlights the need for professional development programmes that not only strengthen existing competencies, but also encourage creativity and the integration of new educational methodologies.

It is concluded that the strengthening of organizational learning within educational institutions can lead to a substantial improvement in the quality of teaching. Creating dynamic and change-responsive educational environments not only facilitates teachers' professional development, but also ensures better learning outcomes for students, contributing to high-quality education adapted to contemporary challenges.

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