

School Climate and Teachers' Creativity in Tunisian Middle Schools*

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Abstract

This study examines the relationship between school climate and teachers' creativity in Tunisian middle schools. It draws on a random sample of 572 teachers from 44 preparatory schools and employs a mixed-methods design. In the quantitative phase, the researcher identified the preparatory school in Tunis Governorate that achieved the highest levels of teacher creativity. This was followed by an in-depth qualitative phase aimed at explaining how the school climate supports the group of teachers within that school. The findings indicate that the 'relationships' dimension represents the most influential factor in teachers' creativity, followed by the 'teaching and learning' dimension. By contrast, the dimensions of 'institutional environment' and 'safety' demonstrated relatively lower effects. The qualitative phase also revealed an emergent dimension, namely 'school culture,' as a potentially supportive factor that enhances creative practices. Overall, the study provides a data-driven analytical account of how the dimensions of school climate interact with teachers' creativity. It offers a structured framework for future research and a practical guide for efforts aimed at fostering creative practices in similar educational contexts.

Keywords: School Climate; Tunisian Preparatory School; Creative Group; Creative Teacher

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المناخ المدرسي وإبداع المدرسين في المدارس الإعدادية التونسية*

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ملخص

تتناول هذه الدراسة العلاقة بين المناخ المدرسي وإبداع المدرسين في المدارس الإعدادية التونسية؛ معتمدة على عينة عشوائية قوامها (572) مدرّساً موزعين على (44) مدرسة إعدادية، ضمن تصميم منهج مختلط. ففي المرحلة الكمية، حدد الباحث المدرسة الإعدادية التي حققت أعلى درجات إبداع لدى المدرسين في تونس العاصمة، ثم أُتبعت بمرحلة نوعية معمّقة هدفت إلى تفسير الكيفية التي يساهم بها المناخ المدرسي في دعم مجموعة المدرسين داخل تلك المدرسة. أظهرت النتائج أن بُعد «العلاقات» يمثل العامل الأكثر تأثيراً في إبداع المدرسين، يليه بُعد «التعليم والتعلم»، في حين كان تأثير بُعدي «البيئة المؤسسية» و«الأمن» أقل نسبياً. كما كشفت المرحلة النوعية عن بُعد ناشئ هو «ثقافة المدرسة الإعدادية»، بوصفه عاملاً داعماً محتملاً يعزز الممارسات الإبداعية. بصورة عامة، تقدّم الدراسة وصفاً تحليلياً مستنداً إلى البيانات لكيفية تفاعل أبعاد المناخ المدرسي مع إبداع المدرسين، بما يوفر إطاراً منظماً يمكن البناء عليه في البحوث المستقبلية، ودليلاً عملياً للجهود الرامية إلى تعزيز الممارسات الإبداعية في سياقات تعليمية مماثلة.

الكلمات المفتاحية: المناخ المدرسي، المدرسة الإعدادية التونسية، المجموعة المبدعة، المدرّس المبدع

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Introduction

In modern societies, every child should be equipped with the skills and knowledge required to be successful. Among these skills, creativity has been attracting increasing interest, as it is identified as a key 21st-century competency and an expected ability for current and future performance (Ahmadi et al., 2019).

From this perspective, creativity has become a significant theme in educational research (Ahmadi et al., 2019). Still, the effective integration of creativity into the learning process depends largely on teachers, who play a decisive role in shaping learning outcomes in any educational system (Bereczki & Kárpáti, 2018).

More specifically, the responsibility for fostering creativity rests primarily with teachers who themselves think and act creatively. Indeed, it is difficult for teachers to cultivate their students' creative abilities if they have not first developed their own (The SCoTENS Committee, 2012). For this reason, contemporary schools call for creative teachers who combine strong subject knowledge with well-developed professional skills, and who can imagine and implement original approaches in the classroom (Bereczki & Kárpáti, 2018).

While the role of the creative teacher is vital, the surrounding context is equally important. Creativity does not emerge in a vacuum. A range of psychological and social factors influence the development of creative processes, products and individuals (Krippner, 2020), with the learning environment itself being one of the most decisive elements (Ahmadi et al., 2019).

Nevertheless, within a school setting, the same environment may be perceived as conducive to creativity by one individual but not by another. The notion of perception is therefore both central to creativity and inherently subjective (Acar, 2020). For this reason, it is addressed through an examination of the impact of school climate. In this context, school climate refers to the set of subjective perceptions concerning the school environment, both its physical and socio-emotional dimensions, and the events that take place within it, including safety, interpersonal relationships, teaching and learning (National School Climate Center, 2007).

Although there is an extensive body of research on creative teachers (Bramwell et al., 2011; Maley & Kiss, 2018; Beshevec & Kopylova, 2006), far fewer studies have examined the relationship between teachers' creativity and school climate (Fidan & Oztürk, 2015; Terry et al., 2018). To my knowledge, no study has explored how school climate affects creative teachers within a specific school context.

Understanding the mechanisms that underpin teachers' creativity within the school context remains an ongoing challenge for both educational administrators and researchers. Schools are expected to encourage and nurture innovative ideas and practices, not only by counteracting the negative effects of their external environment but also by cultivating a climate that supports individual creativity (Fidan & Oztürk, 2015). For this reason, the school's organizational climate is regarded as a significant factor in shaping teachers' creativity (Vejian et al., 2016).

This relationship may be examined at both the individual and organisational levels (Fidan & Oztürk, 2015), taking into account the personal characteristics of creative teachers (e.g., intrinsic motivation and

self-confidence), as well as dimensions of school climate, including organisational encouragement and the availability of resources.

However, findings from research on creativity and climate in organisational contexts can be transferred to educational settings only to a limited extent, as school norms, classroom processes and groups of children possess distinct characteristics (Péter-Szarka, 2012).

This observation may help to explain Walker's (1966) finding that highly creative schools scored lower than traditional schools when assessed using a tool designed to measure a climate favourable to creativity.

More than half a century after Walker's study, it remains unclear which aspects of school climate should be targeted to improve learner outcomes across various domains, including creativity (Ko et al., 2023). One possible reason for this uncertainty is that creativity itself is multifaceted: at times subjective, at times objective; at times scientific, at times humanistic—and these dimensions may occasionally be in tension.

In this context, the present study has a dual focus. On the one hand, it advances a line of inquiry concerning creative teachers and the school climate that supports them. On the other hand, it contributes to the broader debate on how institutional environments shape professional creativity in educational settings. The research question guiding this study is: How does school climate foster the creative teacher? To address this question, the study examines the following operational premises: (1) The safety dimension of school climate fosters the creative teacher; (2) the relational dimension of school climate fosters the creative teacher; (3) the teaching and learning dimension of school climate fosters the creative teacher; and (4) the institutional dimension of school climate fosters the creative teacher.

Conceptual Foundations: Creativity, School Climate and the Creative Teacher

This section outlines the conceptual and theoretical foundations that frame the study. It first clarifies how creativity is understood as a multidimensional construct, then presents the theoretical perspectives that guide the analysis, and finally defines the two central concepts of the study: school climate and the creative teacher. Together, these elements establish the analytical lens through which the relationship between school climate and teacher creativity is examined in this study.

Creativity is widely regarded as a complex and multifaceted phenomenon, expressed in diverse forms and shaped by multiple influences (Runco, 2014). Given its multidimensional nature, it cannot be adequately explained through a single theoretical perspective. For this reason, the present study adopts a framework integrating three complementary approaches: (1) the theory of divergent thinking from a cognitive perspective; (2) Rogers' provisional theory of creativity from a personal perspective; and (3) Florida's theory of the creative class from a socio-environmental perspective, as will be further explained below.

First, this study draws on the theory of divergent thinking, which refers to the cognitive ability to generate multiple, varied and original responses to a given problem. Divergent thinking is widely regarded as a foundational capacity underlying many forms of creativity (Runco, 2014), making

it particularly relevant for understanding how teachers design innovative instructional practices and respond flexibly to classroom challenges. Secondly, Rogers' (1954) provisional theory of creativity emphasises that creativity arises from the interaction between the uniqueness of the individual and the materials, events, relationships and circumstances that shape their lived experience.

This perspective aligns closely with my conception of the creative teacher, as successful teaching cannot be fully achieved without the active contribution of teachers' creativity (Bramwell et al., 2011), while the organisational climate of the school plays a key role in fostering or constraining that creativity (Amabile, 1996). Thirdly, Florida's (2003) theory of the creative class allows creativity to be understood not merely as an individual trait, but as a collective phenomenon embedded within institutional environments. It therefore helps explain how school climate may nurture not only individual creative teachers, but also a broader community of creative professionals within the same educational institution.

Within this framework, school climate constitutes a central concept. Early discussions of school climate, or elements of it, can be traced back to foundational educational thinkers such as Durkheim (1961) and Dewey (1916, cited in Thapa et al., 2013). More contemporary scholarship has deepened the concept by emphasising the perceptions of school members. Sherblom et al. (2006), for instance, define school climate as the lived experience of a school's organisational structure, interpersonal relationships and institutionally supported interactions. Similarly, Hoy and Clover (1986) describe it as the set of measurable properties of the work environment for teachers and administrators, based on their collective perceptions. Building on these approaches, McCoy et al. (2013) propose a tripartite model of school climate encompassing (1) safety, including physical and socio-emotional rules; (2) relationships, including respect for diversity and social support; and (3) teaching and learning, including academic, social-emotional, and civic dimensions. Still, the National School Climate Center (2007) advances a quadripartite framework that adds a fourth dimension: the institutional environment. In light of the comprehensive review conducted by Thapa et al. (2013), which synthesised findings from 206 studies, the present research adopts this four-dimensional framework: safety, relationships, teaching and learning, and institutional environment.

The second core concept is the creative teacher. This figure occupies a paradoxical position within educational settings. On the one hand, parents value creative teachers for their ability to present ideas in engaging and stimulating ways (Tinio & Barbot, 2017). On the other hand, school administrators may perceive them as unpredictable or disruptive (Runco, 2010). Creative teachers are often characterised as risk-takers (Bramwell et al., 2011), yet they simultaneously ensure students' psychological safety (Rogers, 1954). Although fostering students' creativity requires creative teachers (Bereczki & Kárpáti, 2018), not all teachers are creative, and no teacher embodies creativity perfectly (Bramwell et al., 2011). This tension contributes to the conceptual ambiguity surrounding the term. Among the few attempts to define it, Beshevec and Kopylova (2006) describe the creative teacher as an individual oriented towards the creative execution of professional duties, grounded in both scientific and pedagogical thinking styles and supported by creative imagination. Expanding this view, Bramwell et al. (2011) identify four interrelated dimensions that characterize creative teachers: (1) personal characteristics, including personality traits, motivation and values; (2) communities, both personal and professional; (3) processes, referring to the

innovative application of resources to address teaching challenges; and (4) outcomes, encompassing the practices and strategies developed as tangible expressions of creativity.

Taken together, these theoretical perspectives and conceptual clarifications provide the foundation for analysing how the four dimensions of school climate may foster the development and expression of the creative teacher within educational institutions.

Methodology

Overall Research Design

This study employs a mixed-methods approach to leverage the complementary strengths of quantitative and qualitative inquiry. More specifically, it follows an explanatory sequential design (Creswell, 2009), in which quantitative data are collected and analysed in a first phase, followed by qualitative data collection and analysis in a second phase. The quantitative phase aims to identify the middle school with the highest average creativity scores among its teachers. The qualitative phase then consists of a single case study of the selected middle school, with the purpose of describing how its school climate fosters teachers who obtained the highest average creativity scores in the city of Tunis—in other words, creative teachers.

Given the multidimensional nature of creativity, multiple approaches to its measurement have been proposed (Runco, 2014). Several studies classify creativity measurement tools into four categories: process, product, person, and press (or environmental) (Doyle, 2019; Kanlı, 2020; Runco, 2014). In alignment with my theoretical framework, the present study captures the multidimensionality of teacher creativity through three of these four approaches: (1) the process-oriented approach, grounded in the theory of divergent thinking (Torrance, 1995, cited in Runco, 2014); (2) the person-oriented approach, based on Rogers's (1954) provisional theory of creativity; and (3) the environmental approach, derived from Florida's (2003) theory of the creative class. The product-oriented approach is not adopted, as evaluating creative products requires assessment by panels of domain-specific experts (Amabile, 1996). Given the diversity of potential creative production domains across teachers' specialisations in the sample, this would necessitate engaging a large number of experts. Furthermore, evaluating numerous items through multiple rating scales by geographically dispersed judges could compromise the reliability of comparative ratings (Cseh & Jeffries, 2019).

During the quantitative phase, a 10-page booklet containing the Form A version of two creativity tests was developed and distributed to participating teachers. Professional data (years of teaching experience, years at the current middle school, discipline taught) as well as personal data (age) were collected. Test administration followed the official guidelines specific to each instrument. In the qualitative phase, a case study was conducted at the middle school that obtained the highest average creativity scores among its teachers. Data were collected through direct observation, interviews, and documentary analysis.

A stratified random sampling approach (Hibberts et al., 2012) was used to construct the sample from the defined teacher population. In the first stage, middle schools were randomly selected according to their geographical districts. In the second stage, teachers within each selected middle school were chosen

by subject discipline. The target population comprised 73 primary units (middle schools), from which 62 were selected, a sample size considered appropriate according to Hibberts et al's (2012) table for medium to large effect sizes at $\alpha = 0.05$ and power = 0.80. The quantitative phase included 806 teachers, corresponding to 13 teachers from each of the 62 participating middle schools.

For the qualitative phase, 13 teachers were selected from the middle school that obtained the highest average creativity scores across all participating schools.

Quantitative Phase

The quantitative phase was designed to measure teachers' individual creativity and to identify the middle school with the highest average creativity score among its teaching staff. Two instruments were selected to assess teachers' individual creativity: (1) the Torrance Tests of Creative Thinking (TTCT), used as a measure of divergent cognitive thinking and representing the creative process approach; and (2) the Test for Creative Thinking–Drawing Production (TCT-DP), representing the creative person approach. Both instruments assess individual creative potential rather than pedagogical creativity as manifested directly in classroom practice. They capture underlying creative dimensions that may support innovative teaching behaviours, while the translation of this creativity into professional practice is explored in the qualitative phase of the study.

The TTCT is the most widely used creativity test (Kanlı, 2020), and numerous studies have confirmed its validity and reliability in Arab contexts (Ghonsooly & Showqi, 2012; Rababah et al., 2013, cited in Rababah, 2018). The verbal version consists of two parallel forms (A and B) (Torrance, 2000) and includes six activities: 'Asking and Guessing', 'Guessing Causes', 'Guessing Consequences', 'Product Improvement', 'Unusual Uses', and 'Just Suppose'. The TCT-DP was developed by Jellen and Urban (1989) to measure creative abilities independently of age and cultural background. It reflects a more holistic conception of creativity than traditional, quantitatively oriented divergent thinking tests (Jellen & Urban, 1989). Several studies have established a positive correlation between high TCT-DP scores and elevated levels of real-world creativity (Leung, 2013; Ibrahim, 2012; Togrol, 2012, cited in Sola, 2016).

Scoring procedures were conducted in accordance with the official manuals of each instrument. For the TTCT verbal version, three indices were calculated (Torrance, 2018): fluency, defined as the number of distinct ideas generated; flexibility, assessed by the number of conceptual categories represented in participants' responses; and originality, reflecting the production of uncommon or unconventional ideas. Detailed scoring procedures were derived from the TTCT Scoring Manual (Torrance, 2018). For the TCT-DP, eleven criteria were evaluated (Urban & Jellen, 1996), including continuation and completion of figural fragments, introduction of new elements, connections between fragments, theme-building connections, boundary-breaking (dependent and independent), perspective, humor and affectivity, non-conventionality (across four aspects), and speed of completion. Comprehensive scoring guidelines were applied as specified in the TCT-DP Scoring Manual (Urban & Jellen, 1996).

The analytical procedure proceeded in four steps: (1) administration of both creativity tests (TTCT and TCT-DP) to the 806 teachers selected from 62 middle schools, with 13 teachers per school; (2)

calculation of individual test scores, followed by computation of school-level means based on the 13 TTCT and TCT-DP scores within each school, resulting in 62 mean scores for each instrument; (3) calculation of a combined creativity mean for each middle school by averaging the TTCT and TCT-DP mean scores; and (4) comparison of these combined means across all participating middle schools in order to identify the school with the highest overall average creativity score.

Qualitative Phase

The qualitative phase aims to explore how teachers' creativity may translate into situated pedagogical practices and professional behaviours within a specific school climate context. It adopts a single-case study design.

Yin (2018) outlines five valid justifications for employing a single-case study: the critical case, the unusual or extreme case, the common case, and the revelatory or longitudinal case. The present qualitative analysis is grounded in the second justification, as it focuses on the middle school with the highest concentration of creative teachers. This setting represents an extreme or unusual case that deviates markedly from the norm (Yin, 2018). In accordance with methodological rigour, multiple sources of evidence were used, given that case studies should not rely on a single source of data (Yin, 2018, p. 165). These sources included document analysis, direct observation, and interviews. Documents were examined as social products requiring critical scrutiny, as they reflect the interests and perspectives of their authors (Saldana, 2015, p. 61). Direct observation enabled the exploration of complex interactions within their natural social context, allowing the case to be studied in its real-life setting (Yin, 2018, p. 165). Interviews were conducted to elicit participants' perspectives and to gather in-depth information about the phenomenon under investigation.

To prepare the qualitative data for analysis, raw field notes and audio recordings were transcribed and converted into organised textual data (Miles, Huberman & Saldaña, 2013). The data corpus comprised documents, direct observation notes, and interview transcripts.

In analysing the documents, Saldana's (2015) approach to visual data analysis was adopted. This approach begins with identifying an overall first impression of each document, followed by a closer examination of the specific elements that contributed to that impression. After data preparation, qualitative coding was conducted (Miles et al., 2013).

According to Saldana (2015), coding proceeds through two principal stages: first-cycle coding, which involves assigning codes to meaningful segments of data, and second-cycle coding, which clusters these initial codes into a smaller number of categories, themes, or conceptual constructs. Following completion of both coding cycles, the analysis progressed through two interrelated phases as outlined by Miles et al. (2013). The first phase, data display, consisted of condensing and organising the data into structured formats, such as matrices or visual representations, to facilitate interpretation. The second phase, conclusion drawing and verification, involved identifying patterns, developing explanations, tracing causal linkages, and generating propositions grounded in the data.

Ethical considerations were addressed throughout the research process. Data collection was conducted after obtaining official authorization from the Tunisian Ministry of Education, following a formal access request supported by the affiliated doctoral school. This authorization granted access to the selected middle schools and permitted the implementation of the different phases of the study. Participating teachers were clearly informed about the objectives and procedures of the research. Their participation was voluntary, and informed consent was obtained prior to the administration of the quantitative tests and the qualitative interviews. Participants were also informed of their right to withdraw from the study at any time. To ensure participants' privacy, the collected data were treated confidentially, and any information that could identify individual teachers was anonymised during data analysis and reporting.

Results

From the initial sample of 62 middle schools, complete teacher responses were obtained from 44 middle schools, representing a response rate of 70.96%. This rate is methodologically adequate, as response rates of 70% or higher are generally considered acceptable (Hibberts et al., 2012). All creativity scores were standardised and scaled to 100 to allow comparability across schools.

The full distribution of school-level creativity scores across the 44 participating middle schools, including TTCT scores, TCT-DP scores, and the combined average of both tests, is presented in Appendix (1). These scores reflect aggregated school-level means based on the 13 participating teachers in each school.

At the aggregate level, the mean TTCT score was 49.191, while the mean TCT-DP score was 54.221. Both values approximate the theoretical midpoint of 50/100, indicating that, overall, teachers' creativity levels were distributed around the expected average. The combined mean score across the two instruments was 51.486. Table (1) presents the descriptive statistics of teacher creativity by middle school.

Table (1): Descriptive statistics of teacher creativity by middle school

	TTCT Score	TCT-DP Score	Average of the two tests
Mean	49.191	54.221	51.486
Standard deviation	10.191	7.938	7.705
Minimum	31.10	31.02	36.16
Maximum	76.39	69.79	64.82

As shown in Table 1, a slight advantage was observed in favour of the average TCT-DP creativity scores compared to the average TTCT scores. Furthermore, the standard deviation of TTCT scores (10.191) indicates greater variability across schools in divergent thinking performance compared to the TCT-DP results (7.938), suggesting more dispersion in cognitive-process creativity than in person-oriented creative measures.

Qualitative Results

Due to accessibility constraints, the qualitative phase focused on the second highest-ranked school, 'Rue Karatchi'. Although it did not obtain the highest combined average score, it achieved the highest creativity score on the TTCT test and therefore remains an extreme case within the sample. This selection is methodologically justified, as the school represents a context with a particularly high concentration of teachers demonstrating strong divergent thinking performance.

Following first cycle and second cycle coding, a structured system of codes and meta-codes was generated. The full list of first-cycle and second-cycle codes is presented in Appendix (2). These codes were organised around two overarching domains: (1) the creative teacher (including personal characteristics, communities, processes, and outcomes), and (2) the school climate (including safety, relationships, teaching and learning, institutional environment, and an emerging dimension of school culture).

Data display procedures followed Miles et al. (2013), who recommend structured formats to say what is happening in the case. Three complementary display strategies were adopted: (1) a role-ordered matrix to compare participants' perspectives; (2) a folk taxonomy to illustrate causal relationships among categories; and (3) a vignette to narratively represent the case dynamics. The purpose of combining these formats was to diversify analytic representation and enhance interpretive clarity.

The role-ordered matrix was used to display essential characteristics of participants while capturing their perspectives (Miles et al., 2013). In line with this approach, a guiding research question was developed—How are teachers influenced by their middle school's climate to become more creative?—and was broken down into sub-questions addressing: (1) the most salient aspects of the school climate; (2) the actions and attitudes adopted by teachers; (3) teachers' definitions and evaluations of creativity; and (4) the outcomes resulting from individual and collective practices. The matrix revealed both convergent and divergent perceptions among participants. Certain observations, such as the homogeneous socioeconomic background of students, were consistently confirmed by multiple participants. Others, such as passion for the profession, appeared as individual perceptions, possibly reflecting differences in tenure or depth of integration into the school climate. In addition, some elements, such as teacher investment, shifted across categories depending on participants' experience, appearing alternately as a feature of the climate, an individual action, or a collective outcome.

The folk taxonomy was constructed to map causal relationships among the generated categories. Folk taxonomy is defined as an organised network of participant-generated terms arranged into meaningful hierarchical relationships (Miles et al., 2013). Drawing on Spradley's (1979, cited in Saldana, 2015) semantic relationship framework, the cause–effect relationship was selected to structure the taxonomy. This allowed the identification of how specific dimensions of school climate functioned as causal conditions shaping teachers' creative practices. The resulting network is presented in Figure 1.

Finally, a vignette was developed to synthesize and narratively represent the dynamics of creativity within the school, providing a focused description of events considered representative of the case. It was constructed from direct, indirect, and intermediate observations (Miles et al., 2013) conducted at Karatchi Middle School.

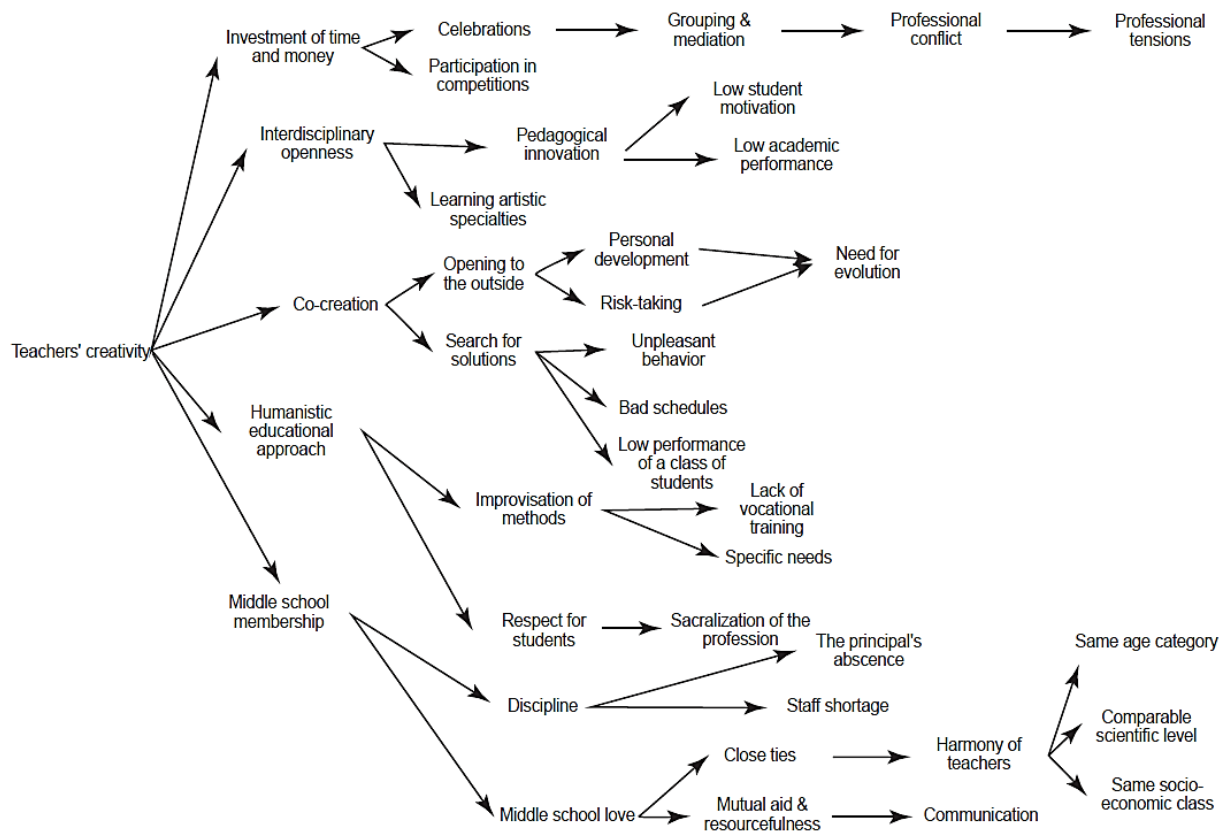


Figure 1: The folk taxonomy

Findings

To deepen the analysis of the qualitative findings, I combined narrative analysis with content analysis. Narrative analysis was adopted because it allows the reconstruction of a coherent account drawn from interviews, observations, and documents (Miles et al., 2013). This approach was complemented by content analysis, which provides a more systematic and quantitatively oriented interpretation by relying on coded categories and counting their occurrences within the data corpus (Silverman, 2015). The integration of these two approaches enabled both structural measurement and contextual interpretation.

Building on Silverman's (2015) content analysis framework, the meta-code categories derived from second-cycle coding were used to determine the relative weight of each dimension related to the creative teacher and the school climate. Sentence units were counted in order to assess the distribution of themes across the data. Table 2 presents the frequency and percentage distribution of the identified dimensions.

Table 2: Weight of Variable Dimensions

Creative Teacher Categories (369 sentences)			
Theme	Example of Occurrence	Number of Sentences	Percentage
Personal characteristics	‘When I go to work, I feel the little ones in front of me as victims, victims of a system, in which they have no responsibility but also of the media which has contributed to the negativity’ (Respondent 7).	128	34.68%
Communities	‘Our teachers give the most, invest in their students and are convinced of their abilities. They try to get the most out of them’ (Respondent 11).	102	27.64%
Processes	‘I teach students from 7th to 9th grade, I support them, so after 3 years, I prepare them alone, which explains the prizes obtained’ (Respondent 11).	52	14.09%
Outcomes	‘Last year, we didn’t even have a principal, I even asked the workers to supervise the exams, and we managed to pass the exams and the school year’ (Respondent 7).	87	23.57%
School Climate Categories (328 sentences)			
Theme	Example of Occurrence	Number of Sentences	Percentage
Safety	‘The small size of the middle school and the fairly high wall also play a role; here there is only one gate which is closed so it is secure’ (Respondent 11).	39	11.89%
Teaching& Learning	‘With the students’ development, they are looking for video and photography... They are much more interested in the lesson than before, and can create new things’ (Respondent 4).	69	21.03%
Relationships	‘Here, the teachers are a family; there are no cliques... In the staff room, we’re all brothers’ (Respondent 11).	111	33.84%
Institutional environment	‘Perhaps the location of the school matters; there are no cafes...’ (Respondent 3).	53	16.15%
School culture	‘Karachi is my second home, and I fight for it’ (Respondent 5).	56	17.07%

As shown in Table 2, within the creative teacher domain (369 coded sentences), personal characteristics represent the most frequently occurring dimension (34.68%), followed by communities (27.64%), outcomes (23.57%), and processes (14.09%). This distribution suggests that creativity in this case is strongly rooted in individual dispositions and relational networks before being expressed through pedagogical processes and measurable outcomes.

Regarding the school climate domain (328 coded sentences), relationships constitute the most prevalent dimension (33.84%), followed by teaching and learning (21.03%). The institutional environment (16.15%) and safety (11.89%) appear less frequently, while an emergent dimension labelled “school culture” accounts for 17.07% of coded segments. The emergence of school culture as a distinct category indicates that participants conceptualised the school not merely through structural or procedural features, but as a shared symbolic and emotional space.

Although frequency counts provide a quantitative indication of the visibility of each dimension within the data, they do not automatically equate to causal weight or practical importance. The prominence of certain categories may reflect discursive emphasis rather than structural dominance. For this reason, the numerical findings are further examined through narrative analysis in order to interpret how these dimensions function as catalysts in fostering creative teachers within this particular school context.

The Narrative Analysis

The following section presents a narrative synthesis of the findings. Selected participant excerpts are included to clarify and exemplify key interpretive points. While the narrative broadly follows the structure of an initial situation, progression of events, and conclusion, it does not aim to provide a separate illustration for each operational premise. Rather, it captures the dynamic interplay of school climate dimensions as experienced by participants. In several instances, themes that appeared less frequently in the coded data were nevertheless described narratively as having a strong influence on teacher creativity.

The narrative begins with the initial situation of Karatchi Middle School. In 2004, the school did not enjoy a strong reputation, and some classes contained only 8 to 10 students.

As one participant stated, ‘Parents wouldn’t even bring their children here.’

According to several accounts, the students largely came from a single primary school known for internal violence and a high number of pupils with special educational needs. ‘In 2003 the situation was poor despite having excellent teachers,’ reported one participant, highlighting the contrast between teacher quality and institutional conditions.

The progression of events reflects how teachers responded collectively to these challenges. Faced with staff shortages and limited administrative presence, teachers assumed greater responsibility. ‘We managed to handle classes without administration – what do you need the principal for? Do your job and go home’, remarked one participant in the teachers’ lounge. The staff implemented stricter disciplinary measures, emphasising punctuality and minimizing absences, and adopted coordinated practices across classrooms. As another participant explained, ‘Last year we didn’t even have a principal... I even asked maintenance staff to supervise exams, and we successfully completed both the exams and the school year.’ These accounts suggest a strong culture of professional ownership and collective accountability.

Over time, this internal collaboration, combined with the integration of arts into teaching practices, contributed to the development of interdisciplinary pedagogical approaches, both within classrooms and

in extracurricular clubs. The role of arts is particularly significant, as artistic engagement has been shown to stimulate creativity, reinforcing the importance of incorporating the arts into curricula and instructional methods (Jindal-Snape et al., 2018). However, arts integration was not the sole factor enhancing creativity among the school's teachers. Communication among staff (Baruah & Paulus, 2019) and passion for teaching (Runco, 2014) also emerged as central drivers of creative engagement. Together, these elements illustrate how relational dynamics, professional commitment, and pedagogical experimentation interacted within the school climate to foster teacher creativity.

Discussion

This section presents the principal findings of the study and evaluates them in light of the operational premises formulated earlier.

Operational Premise(1): The safety of the school climate fosters the creative teacher

Safety emerged as the least frequently mentioned dimension, accounting for 11.89% of coded segments. It includes the following sub-dimensions: intra-school safety, teacher stability, staff shortages, architectural design, school size, principal selection and disciplinary policies.

The findings indicate that safety influences teacher creativity through multiple interconnected mechanisms. Intra-school safety regulates student behaviour and facilitates effective staff communication (Wang & Degol, 2016). Teacher stability supports the continuity of the creative process (Glăveanu, 2015), while, somewhat paradoxically, staff shortages appeared to stimulate greater collaboration among teachers (Dan & Ye, 2020). Physical characteristics, such as architecture and small school size, enhanced communication patterns and strengthened teacher–student proximity (Mazalto, 2017). Furthermore, principal designation and disciplinary policies contributed to establishing conditions conducive to effective teaching and constructive professional relationships (Fourie, 2018; Simba et al., 2016).

Operational Premise (1) is therefore confirmed. Although safety was not the most dominant dimension in frequency terms, it exerts a foundational influence across outcomes, personal characteristics, processes and community dimensions of teacher creativity.

Operational Premise (2): The relationships within the school climate foster the creative teacher

Relationships emerged as the most frequently cited catalyst for teacher creativity across participants, accounting for 33.84% of coded segments. This dimension includes several sub-dimensions: parental involvement, tolerance of parental excesses, institutional celebrations and events, recognition of effort, a family-like atmosphere, teacher relationships, staff relations, mediation practices, unity among teachers and fellowship.

The findings indicate that relational dynamics function as a central driver of teacher creativity. Tolerance of parental excesses was found to strengthen parental involvement and foster teacher empathy, thereby facilitating effective teacher–parent coordination (Deslandes, 2019). Institutional celebrations and school events contributed to creating a positive organisational atmosphere that reinforced teacher

motivation and supported the sustainability of creative practices (Doyle, 2019). Similarly, recognition of effort enhanced professional engagement and performance (A. Allen & Bulayi, 2021).

Teacher relationships were consistently described as familial, extending beyond purely professional exchanges to include financial, spiritual, emotional and moral support. Such relational cooperation reflects broader dimensions of collegial solidarity (Viernes & de Guzman, 2005). Positive staff relationships were also associated with improved pedagogical practices and strengthened professional interactions (Jarzabkowski, 2002).

Mediation practices enabled the development of socio-educational skills, functioned as mutually beneficial conflict-resolution mechanisms, and enhanced professional collaboration (Alves & Da Costa, 2021). Finally, teacher unity contributed to the formation of a shared professional identity, shaping collective representations and practices (Alias et al., 2021) and fostering the capacity to accept, respect, and manage differences constructively.

Operational Premise (2) is therefore confirmed. Relationships exert a substantial influence on creative teachers across outcome dimensions, personal characteristics (such as empathy, motivation, and open-mindedness), processes (including teacher–parent coordination), and community dimensions (collegial interaction and similarities among teachers).

Operational Premise (3): The teaching and learning aspects of the school climate foster the creative teacher

Teaching and learning emerged as the third most significant dimension of school climate, accounting for 21.03% of coded segments. This dimension includes the following sub-dimensions: extracurricular clubs, pedagogical innovation, lack of educational resources, and the distinction between education and instruction.

The findings suggest that extracurricular clubs play a substantial role in fostering teacher creativity. Clubs provide students with opportunities to develop various skills, while also creating space for closer relationships between club teachers and students (Kuhar & Sabljic, 2016), thereby influencing creative teacher outcomes through increased teacher–student proximity. Moreover, their relatively flexible structure reduced authoritative constraints, and more informal teacher–student relationships create psychological safety and autonomy, conditions identified as essential catalysts of creativity (Rogers, 1954).

Pedagogical innovation also emerged as a central mechanism within this dimension. Defined as a creative and reflective problem-solving process aimed at generating new solutions for diverse contexts (Jaatinen & Lindfors, 2019), pedagogical innovation, particularly through the integration of technology, enhances teachers' personal characteristics by keeping them informed and aware, as they engage with new ICT tools (Jaatinen & Lindfors, 2019).

The distinction between education and instruction also proved meaningful. Education, understood as fostering learner autonomy through the development of skills and aptitudes, differs from instruction

as time-bound institutional teaching activities (Carr, 2003). Participants' emphasis on education rather than mere instruction reflects a broader pedagogical intentionality that strengthens student responsibility and creative engagement. Finally, although the lack of educational resources, particularly in scientific subjects (Bayram-Jacobs et al., 2019), was acknowledged, it did not appear to significantly constrain the dimensions of creative teaching within Karatchi Middle School.

Operational Premise(3) is therefore confirmed. Teaching and learning processes influence creative teachers across outcome dimensions (student creativity, teacher–student relationships, teacher–Student Proximity, pedagogical innovation), personal characteristics (contribution to educational progress, being informed/aware), process dimensions (solution-seeking), and community dimensions (teaching practices).

Operational Premise (4): The institutional environment of the school climate fosters the creative teacher

The institutional environment represents the fourth dimension of school climate, accounting for 16.15% of coded segments. It encompasses the following sub-dimensions: socioeconomic class, student quality, parents' profiles, special educational needs, middle school location, and interns and demonstration lessons.

At Karatchi Middle School, the socioeconomic composition is described as predominantly middle-class. Research suggests middle-class background appears to regulate student behaviour and reinforce discipline, as students' cultural repertoires align more closely with the values of the educational system (Edwards, 2016). Moreover, shared socioeconomic characteristics among teachers contribute to a relatively homogeneous pedagogical culture in terms of beliefs, norms and values, thereby shaping social interactions and professional profiles (Van Maele & Van Houtte, 2011).

Student quality—encompassing knowledge, skills, behaviour, personality traits, emotional and intelligence quotients, motivation, and specific needs (Jiang et al., 2017)—also emerged as a salient factor. Teacher quality is closely linked to student quality (Gustari Prima Diharmis, 2021), suggesting a reciprocal dynamic between institutional context and professional performance. The parental profile, largely characterised by university education and middle socioeconomic status, influences the intensity of parental involvement (Sclafani, 2004).

The presence of students with special educational needs, combined with limited formal training, prompted teachers to develop adaptive pedagogical strategies and engage in informal professional development through collaboration. The school's urban and accessible location further contributes to educational performance, learning conditions, and academic outcomes (Lin et al., 2014; Yi, 2004). Finally, the presence of interns and demonstration lessons enriches established teachers' interpersonal skills and introduces new ideas, resources, and methods that stimulate pedagogical innovation (Price & Willett, 2006).

Operational Premise (4) is therefore confirmed. The institutional environment influences creative teachers across multiple dimensions, including outcomes (pedagogical innovation, teacher–student relationship and teacher ideology), personal characteristics (time investment and professional

development), processes (parent-teacher coordination, pedagogical improvisation, staff coordination and cooperation) and community dimensions (professional ethics, quality of teachers, and similarities among teachers).

Emerging Dimension

The meta-codes generated through second-cycle coding allowed for the emergence of an additional dimension: school culture. To assess its substantive relevance, researchers may employ category counting within qualitative datasets (Silverman, 2015). In the present study, school culture accounts for 17.07% of coded segments, indicating a non-negligible presence within participants' narratives.

School culture is generally constructed through teachers' perceptions and interpretations of key activities and experiences within the school context (Freiberg, 1999).

It is considered one of the primary factors influencing the teaching–learning process within an institution (Freiberg, 1999). In some strands of the literature, school culture is treated as a dimension of school climate (Freiberg, 1999). This conceptual overlap is understandable, as school culture reflects how teachers and students experience and interpret their environment, whereas school climate more broadly encompasses the structural conditions and organisational processes that shape that environment (DeWitt & Slade, 2014).

Based on the qualitative findings, I formulate and examine the following premise (5): School culture fosters creative teachers. This emerging dimension comprises the following sub-dimensions: middle school belonging, the school as a refuge, the school's image and reputation, and love for the middle school.

School belonging refers to the extent to which teachers feel integrated with colleagues, administrators and students, promoting a shared sense of the prevailing norms and values within the school (Skaalvik & Skaalvik, 2011), and teachers with high levels of belonging tend to adopt more humanistic approaches to student behavior (Emmons & Belangee, 2018), although the causal direction of these associations remains debated (K. Allen et al., 2018). The notion of refuge highlights the physical and emotional safety, non-judgment, and support that educators provide to mitigate the pressures students face (Knight et al., 2018), thereby reinforcing other school climate dimensions that contribute to teacher creativity.

The school's reputation, closely linked to institutional image, mediates perceptions of teaching quality and enhances course satisfaction (Wong et al., 2014), while also signaling teacher competence and influencing parental enrolment decisions. Finally, love for the school—encompassing care, commitment, knowledge, responsibility, and respect (Ramírez & González, 2012)—serves as a moral driver that stimulates behavioural engagement and is associated with creativity through sustained and passionate involvement (Runco, 2014).

Operational Premise(5) is therefore confirmed. School culture influences creative teachers primarily through outcome dimensions, particularly teacher ideology and creative products, by reinforcing emotional commitment and identification with the middle school.

Limitations and Future Research

This study is subject to several limitations that should be acknowledged. First, a data collection limitation concerns the use of single interviews. Single-interview designs may generate contradictory details or insufficient depth of information from participants (Mears, 2009). This limitation may partly explain why pedagogical innovation appeared simultaneously within the teaching and learning dimension of school climate and within the creative teacher outcomes dimension. Although Mears (2009) recommends conducting three separate interviews per participant to enhance depth and coherence, I was unable to secure the cooperation of the school principal and participating creative teachers for repeated interviews, as they considered it unnecessary to repeat similar discussions on multiple occasions.

A second limitation relates to access. The middle school of Mjez Elbeb obtained the highest average creativity scores across both tests (64.821). However, the school team chose to withdraw from the study, citing prolonged engagement in research without tangible benefits. Consequently, the qualitative phase focused on the second-highest scoring school (64.583), namely Rue Karatchi. Although this case remains methodologically justified as an extreme case, the inability to access the highest-ranking school represents a constraint.

These limitations open several avenues for future research. First, future studies should broaden the range of stakeholders examined. My fieldwork suggests that teacher creativity is influenced not only by teachers themselves but also by other actors and contextual factors that shape school climate. At the institutional level, school principals appear to play a pivotal role, as their leadership can influence organisational conditions, working environments, and teachers' motivation (Fourie, 2018). Leadership practices may therefore create conditions that either foster or constrain teacher creativity. Beyond the school level, national educational policies, curricular reforms and assessment systems were perceived as shaping the local school climate in ways often beyond teachers' direct control (Freiberg, 1999).

Furthermore, future research should examine the internal interactions among school climate components. The present analysis revealed dynamic interconnections between sub-dimensions within the school climate itself. For example, the sub-dimension 'tolerance of parental excesses' appeared to foster the sub-dimension 'parental involvement' within the relationships dimension. Investigating such internal interactions more systematically could provide a deeper understanding of how different elements of school climate collectively contribute to fostering creative teachers.

Conclusion

Building upon existing scholarship on creative teachers and school climate, this study examined the relationship between school climate and teacher creativity, with particular attention to how different climate dimensions may support creative professional practices. Given the limited theoretical corpus addressing this intersection, the research adopted a primarily descriptive orientation. A mixed-methods strategy was implemented, combining quantitative data derived from creativity tests with qualitative data collected through observations, interviews, and document analysis.

The findings underscore the central importance of the relational dimension of school climate.

Participating creative teachers consistently identified relationships as the most decisive factor influencing their creativity, due to its cross-cutting effects on personal characteristics, professional practices, outcomes and collaborative communities. Although safety received a lower weighting, it exerted a foundational influence across multiple sub-dimensions of teacher creativity. In comparison, the teaching–learning dimension and the institutional environment demonstrated a more substantial impact than safety, particularly in shaping pedagogical processes and professional development.

An additional emergent dimension—school culture—was identified. This dimension appears to function as a mediating layer between other sub-dimensions (such as parental involvement) and broader school climate components (such as teaching and learning), thereby reinforcing their influence on creative teachers. School culture captures the symbolic, emotional, and identity-based elements of the school context that sustain creative engagement over time.

Overall, this study provides a detailed and empirically grounded account of the interactions between school climate and teacher creativity. While the findings align with theoretically informed directional interpretations, the descriptive design does not permit definitive causal conclusions. Rather, the study establishes a structured empirical foundation for future explanatory research aimed at testing causal mechanisms with greater methodological rigour.

From a practical perspective, the results may inform ongoing initiatives seeking to foster teacher creativity and contribute to the broader democratization of creativity through educational practice in comparable institutional contexts

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Appendix (1) : Creativity scores by school

N°	Districts	Middle school	TTCT Score	TCT-DP Score	Average two tests
1	Hrairia	El Agba	56.157	65.509	60.833
2	Carthage	Carthage dermech	52.954	55.429	54.191
3	Halk el oued	El farabi	57.222	31.018	44.120
4	Halk el oued	Assad Ibn fourat	50.811	50.961	50.886
5	Bardo	Rue Hbib thamer	46.574	47.916	47.245
6	Tunis medina	El Hafsia	64.325	57.936	61.130
7	Tahrir	Rue Ibn hasnia	66.296	56.172	61.234
8	Beb bhar	Rue Hedi chaker	63.564	54.629	59.097
9	Jbeljloud	2 mars 1934	50.198	65.476	57.837
10	Bardo	Rue karatchi	76.388	52.777	64.583
11	Bebbhar	Rue lenine	54.949	57.954	56.452
12	Bebbhar	Avenue de la gare	49.259	42.824	46.041
13	Sijoumi	El mallasine	48.159	60.416	54.288
14	Ouardiya	Ouardiya	60.416	60.416	60.416
15	El menzah	Rue rsas, Menzah	53.564	63.657	58.611
16	Tunis medina	El sarragine	64.888	56.944	60.916
17	Sidi hssine	Sidi hssine	45.555	59.201	52.378
18	Sijoumi	El Sijoumi	37.916	55.138	46.527
19	Kabaria	Ibn sina 3	53.611	63.020	58.315
20	Bardo	Imam Ibn Arafa	54.675	51.620	53.148
21	Bardo	Yoghorta	49.700	52.991	51.346
22	Cité khadhra	Louis braille	48.138	63.333	55.736
23	El menzah	Manar 2	53.888	61.111	57.500
24	Beb souika	Rue Mjez el beb	62.976	66.666	64.821
25	Omrane supérieur	Omrane supérieur	52.341	58.531	55.436
26	Sidi hssine	20 Mars 56 sidi Hssine	57.118	69.791	63.454
27	Tunis medina	Fabrique des glaciers	33.965	44.513	39.239
28	Bebbhar	Abderazak chraibi	36.734	57.083	46.908
29	Bebsouika	Rue bechir sfar	49.935	55.380	52.658
30	Kabaria	Ibn sina 1	42.844	45.062	43.953

N°	Districts	Middle school	TTCT Score	TCT-DP Score	Average two tests
31	Kabaria	Ibn sina 2	43.161	45.891	44.526
32	Sidi elbéchir	Beb jdid	42.461	55.342	48.901
33	Ouardiya	Iris rouge	31.097	41.232	36.164
34	Halk el oued	El jahedh	41.664	56.772	49.218
35	La marsa	La marsa	31.761	45.493	38.627
36	La marsa	Sidi daoud	37.373	55.558	46.465
37	El kram	Sidi amor	35.376	55.948	45.662
38	Sidi hssine	Sidi Hssine 2	47.278	48.892	48.085
39	El menzah	Beau Cite	43.990	59.984	51.987
40	Bardo	Cité Fattouma Bourguiba	47.090	52.091	49.590
41	Zouhour	Bach Hamba	36.820	49.166	42.993
42	Hrairia	Hrairia	45.690	46.140	45.915
43	Omrane	Rue El Aghleb Tmimi	34.161	41.376	39.526
44	La marsa	Fadhel ben achour	51.341	48.373	38.436

Appendix (2): List of Codes / Meta-Codes obtained

First-cycle codes	Second-cycle codes
The creative teacher	
Teacher leniency	Personal characteristics
Reward in the afterlife	
Risk-taking	
Working to exhaustion	
Additional work	
Non-conformity	
Being informed/aware	
Open-mindedness	
Teacher spontaneity	
Teacher empathy	
Sanctification of the teaching profession	
Passion for teaching	
Contribution to educational progress	
Professional investment (time, money, effort)	
Personal and/or professional development	
Teacher motivation	
Teachers' children	The communities
Teachers' family	
Similarities among teachers	
Teaching practices	
Colleagues interactions	
Teacher's colleagues	
Seriousness & "work in the blood"	
Professional ethics	
Neighborhood involvement	
Quality of teachers	
Reuse of teaching devices	The processes
Parent-teacher coordination	
Compensation for staff shortages	
Student monitoring/follow-up	
Middle School management	
Pedagogical improvisation	
Art integration	
Staff coordination	
Staff cooperation	
Solution-seeking	

First-cycle codes	Second-cycle codes
Inter-disciplinary openness	The outcomes
Humanistic approach to learners	
Pedagogical Innovation	
Spiritual Mentorship	
Differentiated Output Customization	
Creative products	
Rewards	
Novice Teacher Socialization	
Institutional Challenge Ownership	
Novice teacher practice’s rectification	
Teacher-Student Proximity	
Teacher-student relationship	
Teacher Ideology	
The school climate	
Intra-school Safety	Safety
Teachers Stability	
Staffing Shortage	
Architecture	
Middle School Size	
Disciplinary Policy	
Principal Selection	
Clubs	Teaching and learning
Education, not only teaching	
Pedagogical Innovation	
Openness to the outside	
Lack of educational resources	
Parental involvement	Relationships
Tolerance of parental excesses	
Institutional Celebrations	
School Events	
Effort Recognition	
Teachers’ Fellowship	
Staff relationships	
Teachers relationships	
Mediation	
Unity among teachers	
Family-like atmosphere	

First-cycle codes	Second-cycle codes
Socioeconomic class	The institutional environment
Student quality	
Parents profile	
Special needs	
Middle School location	
Interns & demonstration lessons	
Middle School Belonging	School culture (Emerging dimension)
Refuge	
Middle School Image & Reputation	
Love for the Middle School	

Final declarations:

- The authors declare that they got the required voluntary human participants consent to participate in the study as well as the necessary institutional approvals.
- The datasets generated and/or analyzed during the current study are available from the corresponding author upon reasonable request.

تصريحات ختامية:

- يصرح المؤلف / المؤلفون بالحصول على موافقة الأشخاص المتطوعين للمشاركة في الدراسة وعلى الموافقات المؤسسية اللازمة.
- تتوفر البيانات الناتجة و/ أو المحللة المتصلة بهذه الدراسة من المؤلف المراسل عند الطلب.

