

# FROM THEORY TO PRACTICE: ASSESSING INITIAL EXPECTATIONS AND SELF-PERCEPTION OF TEACHERS ENROLLED IN THE 30 CFU QUALIFICATION PATHWAYS

## DALLA TEORIA ALLA PRATICA: VALUTARE LE ASPETTATIVE INIZIALI E L'AUTOPERCEZIONE DEGLI INSEGNANTI ISCRITTI AI PERCORSI ABILITANTI DA 30 CFU



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### ABSTRACT

This mixed-methods study explores expectations and self-perception of 1,493 teachers enrolled in Pegaso University's 30-ECTS qualification pathways. Survey and metaphor analysis show that teaching experience shapes views of student achievement, motivation, and behavior. Training needs are broad, with high demand for practical tools and reflective inquiry. Metaphors serve as interpretive lenses of teacher efficacy and identity, providing valuable insights for the design of training programs and support strategies. Findings inform policy and research.

Lo studio indaga, con approccio misto, aspettative e autopercezione di 1.493 docenti iscritti ai percorsi abilitanti da 30 CFU dell'Università Pegaso. Questionari e analisi di metafore rivelano che l'esperienza modula la visione di rendimento, motivazione e comportamento degli alunni. I bisogni formativi risultano trasversali, con più richiesta di strumenti operativi e riflessione critica. Le metafore funzionano da lente interpretativa dell'efficacia docente, orientando progettazione e supporto.

### KEYWORDS

Qualification pathways, Teacher self-perception, Educational metaphors, Training needs, Mixed-methods approach  
Percorsi abilitanti, Autopercezione docente, Metafore educative, Bisogni formativi, Metodologia mista

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## **Introduction**

In the context of the ongoing reform of initial teacher education and recruitment pathways, Pegaso Online University has launched, in line with the directives of the DPCM of August 4, 2023, new university and academic qualification programs for teaching in secondary schools. This decree, framed within the broader teacher recruitment reform promoted by the *National Recovery and Resilience Plan (PNRR)*, introduces a structural reorganization of teacher education, outlining a training model focused on disciplinary, pedagogical, inclusive, and professional competences, with a strong emphasis on practice and critical reflection.

Within this new regulatory framework, teacher education is no longer conceived as the mere transmission of theoretical knowledge but as an integrated process of professional development, aimed at strengthening the ability to plan, act, and assess in a responsive and context-sensitive manner. One of the core quality dimensions of these pathways is the development of professional self-efficacy, understood as teachers' belief in their capacity to positively influence students' learning, engagement, and behavior—even in complex or challenging situations.

The approach adopted by Pegaso reflects the main theoretical and empirical assumptions emerging in scientific literature (Bandura, 1997; Tschannen-Moran & Woolfolk Hoy, 2001; Zee & Koomen, 2016), which emphasize that self-efficacy is a key variable not only for teacher motivation and well-being, but also for instructional quality and student outcomes. This construct is strengthened through enactive mastery experiences, vicarious learning, peer comparison, and reflective feedback.

In this perspective, Pegaso's qualification pathways are designed as educational tools capable of addressing the professional and identity-related needs of future teachers, fostering self-reflection and peer learning processes and enhancing the dialogue between theory and practice, including the symbolic and narrative construction of teacher identity—as illustrated by the use of metaphors in the qualitative analysis of school representations.

### **1. Theoretical framework and research aims**

Recent literature consistently highlights the centrality of teacher self-efficacy in shaping effective teaching practices, especially within inclusive and dynamic educational settings. As a core psychological construct, teacher self-efficacy

influences not only instructional behaviors but also teachers' motivation, sense of professional agency, and their capacity to foster meaningful student engagement and adaptive learning environments. Grounded in Bandura's (1997) social cognitive theory, self-efficacy is understood as teachers' belief in their capability to perform instructional tasks successfully, a perception closely associated with instructional quality, student outcomes, and professional commitment (Tschannen-Moran & Woolfolk Hoy, 2001; Zee & Koomen, 2016). Self-efficacy is far from being a secondary trait; it is rather considered "one of the most central mechanisms" driving human agency, enabling people to exercise some control over their thoughts, feelings, and actions. In educational contexts, Bandura's ideas have been extended to teachers' work. Teacher self-efficacy refers to "the teacher's belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (Tschannen-Moran & Woolfolk Hoy, 2001). This construct reflects teachers' confidence in influencing student engagement and learning even when challenges arise.

### **1.1 Teacher self-efficacy and professional development**

Self-efficacy plays a dual role in teacher professional development: it is both an outcome of effective training and a predictor of training engagement. High self-efficacy fuels a teacher's motivation to learn new strategies, while professional learning experiences can in turn strengthen self-efficacy by providing mastery experiences, vicarious models, and social persuasion (Bandura, 1997; Gale et al., 2021). Teachers with a strong sense of efficacy tend to be more receptive to pedagogical innovations, persistent in refining their practice, and more confident in applying new knowledge in varied educational contexts (Tschannen-Moran & Woolfolk Hoy, 2001).

Özdemir et al. (2020) add an organizational lens, showing that principals' instructional leadership behaviors strongly influence teachers' motivational focus, self-reflection, and confidence. This aligns with Calderhead's (2021) argument that understanding teachers' thinking processes is crucial for professional development, as it contributes to reflective practice and the integration of theory into classroom decision-making.

Moreover, Lauermann and ten Hagen (2021) show that teachers' perceived competence and self-efficacy are significant predictors of students' academic

success, particularly when mediated through student-reported instructional quality and classroom climate.

## **1.2 Initial expectations and engagement in training**

Teachers' initial expectations regarding professional development programs are critical in shaping their motivation and level of engagement. Expectations—rooted in perceived relevance, utility, and alignment with personal and professional goals—can either support or hinder meaningful participation. This is particularly evident in adult learning contexts, where learners seek goal-oriented and contextually relevant experiences. If expectations are unmet, engagement suffers; however, alignment between expectations and program content fosters a more proactive and invested learning attitude.

Studies show that initial beliefs and anticipations regarding training effectiveness can influence the outcomes of learning initiatives (Wray, Sharma, & Subban, 2022). Gale et al. (2021) further suggest that enactive mastery experiences and early positive outcomes in training reinforce these expectations, facilitating deeper learning and long-term application of new practices. Thus, understanding and addressing initial expectations are vital for effective program design.

## **1.3 Models of teacher professional development**

Professional development is increasingly viewed as a continuous, career-long process of professional learning. This aligns with European policy frameworks such as the European Qualifications Framework (EQF) and LifeComp, which emphasize not only the acquisition of domain-specific competences, but also transversal skills such as critical thinking, adaptability, and reflective practice (European Commission, 2018). LifeComp specifically identifies self-efficacy as a key competence underpinning lifelong learning and personal growth.

Calderhead (2021) argues that teachers' thinking processes—how they interpret, evaluate, and reflect on their practice—are fundamental to professional growth. Reflective practice, when intentionally fostered through structured training, allows teachers to bridge theory and practice more effectively, supporting the internalization of professional standards and pedagogical strategies.

Programs like Italy's 30 CFU qualification pathway represent an opportunity to implement these principles in practice. To optimize their impact, such programs

should integrate components that promote self-efficacy (e.g., mastery tasks, collaborative inquiry), manage expectations (e.g., transparent goals, relevance), and align with European policy goals. In doing so, they not only certify but also empower a new generation of reflective, confident, and competent educators.

#### **1.4 Teacher self-efficacy development in education programs**

Recent literature (Arias-Pastor et al., 2024) shows that pre-service teachers tend to begin their training programs with moderate to high levels of perceived self-efficacy. This initial sense of competence, although not yet grounded in formal professional experience, appears to be significantly influenced by prior informal or non-formal teaching experiences, such as educational volunteering, tutoring, youth work, or homework assistance. These experiences, along with subjective representations of the teaching role—often idealized—contribute to shaping early perceptions of teaching competence.

These early perceptions of teaching competence are not formed in a vacuum, but rather emerge at the intersection of past experiences and idealized notions of the teaching profession. The contribution by Arias-Pastor et al. (2024) aligns with a broader body of research on perceived self-efficacy in initial teacher education, highlighting that beliefs about one's teaching capabilities are neither neutral nor purely theoretical. Instead, they are rooted in pre-existing personal experiences and subjective representations of what it means to be a teacher.

The innovative aspect of their work lies in its qualitative and quantitative exploration of the *pre-professional sources* of self-efficacy. The study demonstrates that pre-service teachers' initial levels of self-efficacy, although often moderate to high, do not necessarily reflect a solid mastery of professional competences. Rather, these levels are shaped to a considerable extent by prior informal or non-formal educational engagements, such as volunteering or peer tutoring, which offer preliminary—yet partial—exposure to teaching dynamics.

In addition to experiential factors, the study emphasizes the influence of subjective, and frequently idealized, conceptions of the teaching role. Pre-service teachers may envision the teacher as a role model, guide, mentor, or agent of social change—images that are powerful in shaping expectations but may not correspond to the multifaceted realities of educational practice. Such idealized representations, while initially reinforcing self-efficacy, can lead to dissonance

when confronted with the complexities of actual teaching during practicums or early career stages, potentially impacting professional identity and well-being (Flores & Day, 2006).

In sum, the findings of Arias-Pastor et al. underscore that perceived teaching self-efficacy is not an “objective” measure of competence but a complex construct shaped by individual histories, emotions, social representations, and personal aspirations. For this reason, teacher education programs should incorporate structured *reflective devices*—such as professional autobiographies, self-inquiry on the teacher self, and practicum journals—that allow students to critically examine and make visible the pedagogical assumptions and preconceptions they bring into the training process.

## **2. Methodological background**

In order to detect and analyse the perceptions and expectations of teachers and aspiring teachers enrolled in the 30 CFU qualifying pathway at the Pegaso Telematic University, an exploratory-descriptive survey was conducted with a mixed, quantitative and qualitative approach. The dataset, consisting of 1,493 complete responses, included 104 variables, divided into sections relating to demographic and professional data, perceptions about students, training expectations, not currently active and symbolic representations of the school.

The Questionnaire Ex-ante Percorsi Abilitanti 30 CFU was used for data collection, a structured and digitally administered instrument designed to collect relevant information on the professional profile, perceptions, expectations and symbolic representations of teachers and aspiring teachers about to embark on a qualifying training course. The questionnaire, filled in voluntarily and anonymously (through platforms such as Google Forms), took approximately 8-10 minutes and consisted of five main sections, with a combination of closed-ended questions, Likert scale items and open-ended narrative questions, thus favouring a mixed (quantitative and qualitative) research perspective. In the analysis of Likert-scale data, both global averages and group-specific means were calculated to identify transversal trends as well as targeted priorities across different experience levels.

The first section collected socio-anagraphical and professional data (age, gender, postcode, years of experience, role and school grade), while the second

investigated perceived training needs, through Likert scale items relating to areas such as disciplinary didactics, psycho-pedagogy, inclusion and operational tools.

The third section explored training expectations, in relation to the perceived usefulness of the course for acquiring operational, relational and reflective competencies. The fourth investigated the perception of student performance, motivation and behaviour, whilst the fifth section, of an open and qualitative nature, asked participants to symbolically represent the school through a metaphor, allowing for the analysis of collective symbolic representations.

From a theoretical perspective, the construction of the questionnaire integrated several methodological and conceptual references. The initial part of the instrument is based on Albert Bandura's self-efficacy theory (Bandura, 1997), with items aimed at evaluating the teacher's perceived self-efficacy in complex contexts (Tschannen-Moran & Woolfolk Hoy, 2001). The items (e.g. "To get the most out of the most challenging students", "To help students develop critical thinking") were designed to explore key dimensions of self-efficacy, such as classroom management, critical thinking, emotional regulation, personalisation of teaching and the value attributed to learning. An 8-point Likert scale was used, in line with Bandura's recommendations for sensitive measurements of personal efficacy perceptions.

The second part of the instrument incorporated three levels of Kirkpatrick's (1994) training evaluation model:

- Level 1 – Reaction: questions 21–22, which investigate expectations and perceived usefulness of the training pathway;
- Level 2 – Learning: questions 16–20, relating to self-assessment of competencies in instructional design, inclusion, assessment, use of technologies;
- Level 3 – Behaviour: questions 11 and 13–15, which explore inclusive practices, teaching methodologies and use of technologies in teaching.

The fourth level of the model (results) was planned in the ex-post instrument.

The instrument also recalls implicit theoretical references that guide some areas of inquiry: the TPACK framework for educational technologies (Mishra & Koehler, 2006) , the Universal Design for Learning (UDL) approach for inclusion (Rose & Meyer, 2002), the LifeComp framework and the EQF for transversal competencies and lifelong learning (European Commission, 2018), and finally the principles of

authentic assessment (Wiggins, 1993) for the evaluation of competencies in real contexts.

Quantitative analyses were supported by a ChatGPT-based Data Analyst, trained to process and explore educational datasets.

The descriptive analyses (frequencies, means, distributions) were integrated with non-parametric correlation analyses (Spearman's test) to explore the relationships between variables such as years of experience, perceptions about students and training expectations.

Regarding the open-ended responses, a qualitative analysis of the metaphors and images used to describe the school was conducted. This analysis involved a methodological triangulation between:

1. Automated coding through ChatGPT AI support for the preliminary identification of emerging semantic categories;
2. Computer-assisted analysis with NVivo software, useful for categorizing and visualizing symbolic frequencies in the texts;
3. Manual coding conducted by two independent researchers, with subsequent intersubjective discussion to validate the emerging categories and ensure the reliability of the analysis.

This combination allowed for an in-depth and multifaceted reading of participants' representations, integrating quantitative and narrative evidence in a coherent framework for pedagogical reflection and training design. While Likert-scale data were primarily analyzed using descriptive statistics and non-parametric tests, inferential considerations were limited to chi-square associations due to the ordinal nature of the data.

## **2.1 Sample Description**

The study engaged a total of 1,493 valid respondents, all of whom were either current or prospective teachers enrolled in 30-CFU qualifying programs. Notably, the gender distribution within the sample revealed a significant predominance of female participants, with 1,171 individuals (78.43%) identifying as women. Male participants accounted for 310 responses (20.76%), while 12 respondents (0.80%) chose not to disclose their gender. This distribution mirrors national trends in the teaching profession, particularly within primary and special education sectors, where female representation is historically higher.

In terms of the educational levels at which participants were engaged, the Lower Secondary School category emerged as the most represented, encompassing 491 individuals (32.89%). This was followed by participants teaching in High Schools (16.74%), Vocational Institutes (14.27%), Technical Institutes (13.26%), and Primary Schools (8.64%). A noteworthy segment of the sample, constituting 12.12%, indicated that they were not currently teaching. This suggests a substantial presence of future educators or recent graduates in the process of entering the teaching profession. Additionally, Kindergarten/Preschool teachers were represented, albeit to a lesser extent, comprising 2.08% of the sample.

Regarding teaching roles and employment status, the sample exhibited considerable diversity. Non-tenured special education teachers constituted the largest subgroup, with 596 respondents (39.93%). This group was followed by non-tenured general education teachers (20.43%), tenured general education teachers (18.55%), and tenured special education teachers (10.52%). Furthermore, 10.59% of participants reported not being currently employed in a teaching capacity, highlighting the inclusion of individuals at various stages of their professional journey.

Analyzing the teaching experience of respondents revealed a stratified distribution. The most substantial cohort consisted of teachers with 3 to 5 years of experience, representing 25% of the sample. This group was closely followed by those with 6 to 10 years of experience (22.17%) and individuals with less than one year of teaching experience (15.27%). Experienced educators with over 15 years in the profession accounted for 8.84% of the sample, underscoring the varied levels of professional tenure among participants. While Likert-scale data were primarily analyzed using descriptive statistics and non-parametric tests, inferential considerations were limited to chi-square associations due to the ordinal nature of the data.

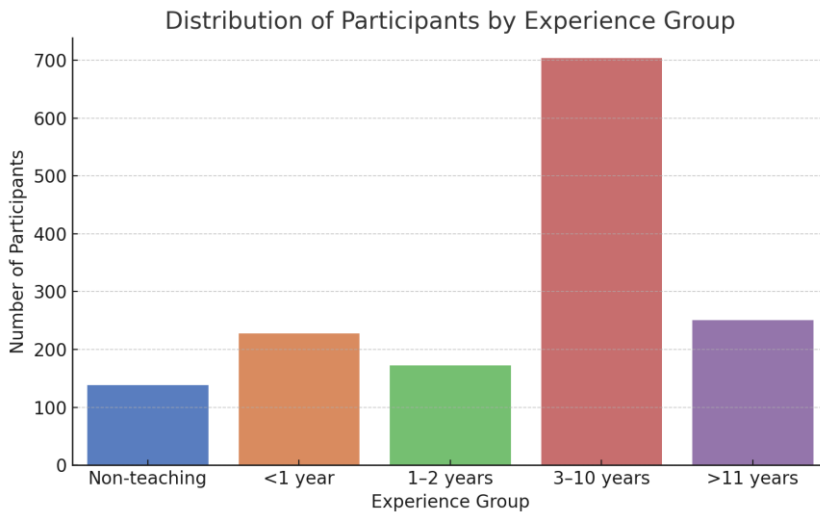


Figure 1. Distribution of the sample by teaching level and employment status

This diversity of profiles serves as a key element in analyzing the relationships between professional experience, perceptions of the school context, and educational expectations.

Analysis of the participants' professional status revealed that 149 teachers (9.99%) were not engaged in teaching, neither in terms of educational level nor role type, forming a subgroup of potential future teachers, professionals in transition, or educators on personal or professional hiatus. Conversely, 1,342 participants (90.01%) were active in the school system in at least one of the two dimensions. The highest proportion of "non-teaching" declarations was associated with the educational level, suggesting the existence of educational roles not situated within the traditional school framework (e.g., educators, external trainers).

Comparing inactive participants with those currently in service revealed age-related differences: non-teaching individuals had an average age of 39.09 years (range: 24–56), while active teachers (teachers in service) had an average age of 41.04 years (range: 24–64). This indicates that the qualifying pathway also involves a younger cohort, potentially in the process of entering the profession. This dynamic suggests that qualification programs serve both to consolidate professional roles and to foster generational renewal in the teaching workforce.

## 2.2 Data Analysis

### *Teachers' Perceptions*

The initial data analysis facilitated the reconstruction of teachers' perceptions regarding three central dimensions of student behavior: academic performance, motivation, and classroom conduct. The findings revealed a significant correlation between teachers' years of service and their perceptions across these dimensions. Specifically, teachers with over ten years of experience tend to express more positive evaluations in all three areas examined. For instance, 51.6% of these seasoned educators rated students' academic performance as good or excellent, compared to 38.8% of novice teachers with less than one year of experience and 34.7% of those with 1–2 years of service. Similarly, positive perceptions of student motivation were more prevalent among the more experienced teachers (47.7%) than among their less experienced counterparts and non-teaching respondents. Regarding classroom behavior, positive assessments increased with experience, reaching 54.0% among teachers with over ten years of service. The figure 2 shows that more experienced teachers tend to express more positive evaluations.

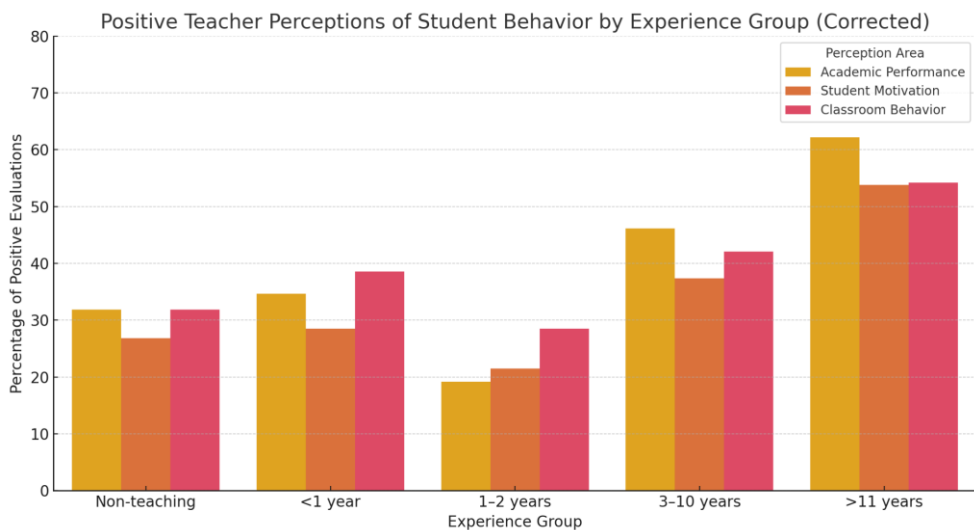


Figure 2. Teachers' perceptions of students' academic performance, motivation, and behavior by years of experience

Chi-square tests confirmed the existence of statistically significant relationships between years of service and each of the three variables analyzed: academic performance ( $\chi^2(8) = 94.46, p < .001$ ), motivation ( $\chi^2(8) = 64.16, p < .001$ ) and behavior ( $\chi^2(8) = 37.88, p < .001$ ). This suggests that professional experience functions as a key interpretive lens through which school dynamics are understood, influencing teachers' perceptions.

More experienced teachers appear to develop a more balanced and optimistic view of the educational context, whereas less experienced teachers and non-teaching individuals tend to exhibit more critical or idealized perceptions.

### *Training Expectations*

The analysis of training expectations revealed consistently high levels across both groups; however, notable differences emerged between currently active teachers and non-teaching participants.

The anticipated learning outcomes among participants in the 30-CFU qualifying programs revealed a consistent and cross-cutting demand across three main dimensions: the acquisition of immediately applicable teaching tools, the deepening of psychopedagogical competencies, and professional peer collaboration.

The expectation to receive ready-to-use instructional tools was particularly high among less experienced teachers: 62.4% of participants with less than one year of service and 63.0% of those with 1–2 years expressed a high expectation in this regard. This percentage progressively decreased with increasing seniority, settling at 45.7% among teachers with over ten years of experience, suggesting a more cautious or systemic view of training effectiveness.

Interest in deepening psychopedagogical competencies was widespread across all groups, with a slight decline among more experienced teachers: 57.0% of novice teachers (<1 year) expressed a high expectation, compared to 43.1% of teachers with over ten years of service. This trend may reflect a shift from broad initial enthusiasm to a more selective and experience-informed approach to training.

The desire for peer collaboration was strongly present among less experienced teachers: 55.5% of participants with less than one year of experience and 55.2% of those with 1–2 years expressed a high expectation in this dimension. Among teachers with over ten years of service, this percentage dropped to 40.2%, while medium-level responses increased (45.9%), indicating a perception of collaboration as an element of continuity and consolidation rather than a priority need. Figure 3

illustrates these trends: less experienced teachers exhibit higher expectations for practical tools, psycho-pedagogical insights and peer collaboration.

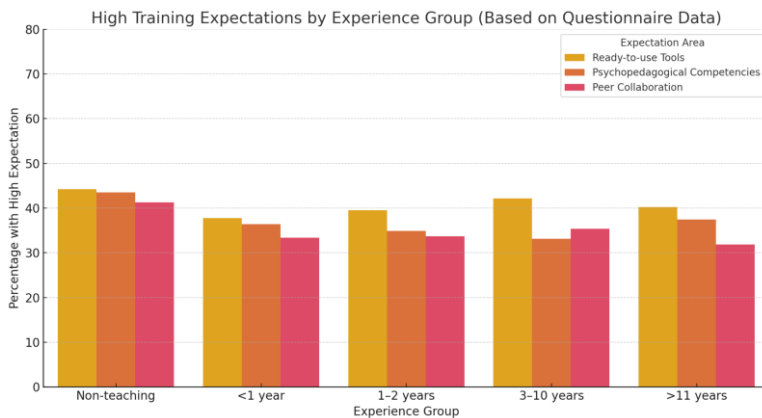


Figure 3. Differences in training expectations according to years of service.

The statistical analysis of the training expectations among participants qualifying programs revealed a general trend: teachers with less professional experience or non-teaching participants tend to express higher expectations compared to their more experienced counterparts.

However, chi-square tests conducted to assess the statistical significance of these differences did not identify significant associations between years of service and the initial goals.

In all three cases, the p-values exceeded the conventional threshold for statistical significance ( $\alpha = 0.05$ ), indicating that the observed differences among groups could be attributed to chance rather than a systematic effect of professional experience. This suggests that, although variations in training expectations exist based on years of service, these differences are not statistically significant.

These findings imply that the design of training programs should consider the cross-cutting nature of expectations among teachers, regardless of their professional experience. Moreover, it is important to recognize that the absence of statistical significance does not necessarily equate to the absence of practical or pedagogically relevant differences.

### *Perceived training needs*

The analysis of perceived training needs among teachers reveals a consistently high demand across all proposed areas, with weighted average scores exceeding 2 on a 1-to-3 scale (where 1 indicates low need and 3 indicates high need). This underscores a widespread interest in professional growth.

Teachers with less than one year of experience reported the highest average scores in nearly all areas, particularly in Classroom Management (2.70), Student Motivation (2.66), and Inclusion (2.64). Similarly, those with 1–2 years of experience expressed strong training needs, with peaks in Classroom Management (2.63), Student Motivation (2.61), and Authentic Assessment (2.58).

Educators with 3–10 years of experience maintained relatively high scores, though slightly lower (e.g., Classroom Management at 2.53; Student Motivation at 2.52). Even among teachers with over 10 years of experience, the demand for training remained notable, with scores ranging from 2.26 in Educational Technologies to 2.48 in Student Motivation, suggesting a more selective and targeted approach to professional development. To enhance interpretability, it is important to distinguish between aggregate averages—reflecting overall trends across the full sample—and subgroup-specific means, which highlight more urgent or pronounced needs among particular cohorts (e.g., novice teachers or non-teaching participants). For instance, while areas like Instructional Design or Authentic Assessment may show the highest average scores in aggregate terms, domains such as Classroom Management or Student Motivation emerge as top priorities among early-career or non-teaching participants. This layered reading helps avoid misinterpretation of priorities and underscores the importance of designing differentiated training responses based on experience profiles.

Notably, non-teaching participants, likely comprising recent graduates or individuals entering the profession, reported the highest overall scores, particularly in Classroom Management (2.73), Student Motivation (2.71), and Inclusion (2.70). This indicates a strong need for practical and relational competencies. To clarify, the overall mean scores presented for each training area reflect the average ratings across the entire sample (N = 1,493), regardless of teaching experience or employment status. These aggregate values are useful for identifying cross-cutting priorities but may obscure specific needs expressed by subgroups. For example, although Classroom Management received a slightly lower global mean than areas like Authentic Assessment, it consistently ranked highest among novice and non-teaching participants. Therefore, while the aggregated mean helps highlight general trends, subgroup analyses—based on years of experience—reveal more

nanced training urgencies, particularly in relational and behavioral management domains.

Overall, Classroom Management emerged as the most sought-after area across all groups, followed by Student Motivation and Inclusion, highlighting the pressing need for operational tools and relational strategies to address daily teaching challenges. Conversely, areas like Educational Technologies and "Other" were rated slightly lower, suggesting a more specific or less generalized demand.

When analyzing global average scores, Authentic Assessment (mean = 1.84) topped the list, closely followed by Educational Technologies (mean = 1.83) and Instructional Design (mean = 1.83). This finding is intriguing as it contrasts with the subjective urgency associated with areas like Classroom Management or Student Motivation, which had higher scores among less experienced teachers. Collectively, however, the more didactic-design and evaluative areas are perceived as top priorities for training, indicating a cross-cutting need that affects both novice and seasoned educators.

The area labelled "Other" received the lowest average score (mean = 1.40) followed by Inclusion (mean = 1.57) and Student Motivation (mean = 1.69). While these still fall within medium levels, they do not emerge as top priorities in aggregate terms. While the figure 4 highlights global averages, the reader should note that specific needs—such as classroom management or motivation—are particularly pronounced among less experienced or non-teaching participants.

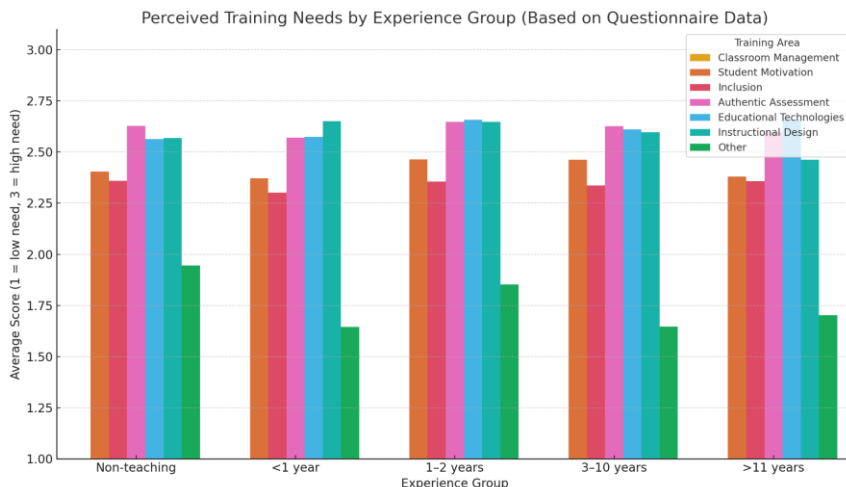


Figure 4. Comparison of perceived training needs across key professional areas by years of experience

These results suggest the necessity of designing flexible and adaptable training programs that cater to the diverse needs of teachers based on their professional experience. Furthermore, they highlight the importance of addressing both practical-relational competencies and didactic-design and evaluative skills in the planning of continuous teacher education.

#### *Symbolic Representations of School: Analysis of Metaphors by Years of Experience*

The analysis of metaphors provided by participants to describe today's school revealed a rich and differentiated symbolic landscape, with notable variation across different ranges of teaching experience. Through a thematic categorization process, nine recurring metaphorical areas were identified: *Relationship/Care*, *Hope/Potential*, *Symbols of Chaos*, *System/Mechanism*, *Nature/Education*, *Work in Progress*, *Educational Utopia*, *Mission/Ideal*, and *Other*. These categories were then cross-tabulated against five experience ranges to explore the evolution of symbolic imagery over the professional lifespan.

Teachers with less than one year of experience showed a strong orientation towards *Hope/Potential*, *Work in Progress* and *Relationship/Care*, suggesting a symbolic view of school that is still marked by openness, possibility, and relational engagement. *Nature/Education* metaphors—such as “garden,” “seed,” or “tree”—further reinforce a developmental on learning and teaching. This symbolic repertoire appears to reflect the initial enthusiasm and formative plasticity typical of early career stages.

In the 1–2 years range, a similarly hopeful and processual imagery was observed, but with a slight increase in metaphors associated with *System/Mechanism* and *Chaos*, such as “machine without a driver” or “labyrinth.” These metaphors suggest the emergence of a more critical awareness of structural constraints, indicating the transition from idealism to system contact. Yet, categories like *Relationship/Care* and *Work in Progress* remain central, confirming a sustained commitment to educational connection and process.

Among teachers with 3–5 years of experience, the incidence of *Symbols of Chaos* reached one of its highest points, marking a critical juncture in professional development. This group also showed a diversification in symbolic repertoire, with increased references to *System/Mechanism* and a reduction in utopian or relational images. This symbolic shift may reflect a phase of professional disillusionment or systemic friction, consistent with literature on mid-early career burnout or role instability.

Participants in the 6–10 years group maintained a balanced distribution across categories. *Hope/Potential* remained present, while *System/Mechanism* and *Mission/Ideal* gained traction. The figure 5 captures the symbolic shift from hopeful and relational metaphors to more structural and critical imagery as experience increases. The coexistence of constructive and critical images suggests a complexified symbolic posture, where engagement coexists with institutional critique, and where metaphors oscillate between transformation and stabilization.

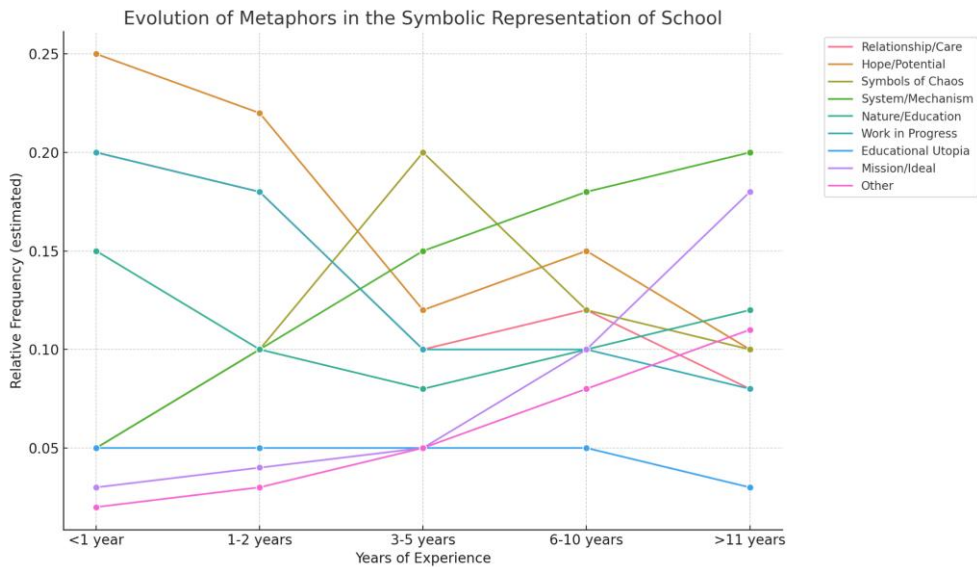


Figure 5. Distribution of metaphorical categories by teaching experience

Among teachers with over 11 years of experience, the metaphorical landscape showed a higher incidence of *Mission/Ideal* and *System/Mechanism*, alongside a decline in relational and utopian images. These results may signal a more ideological, systemic, or reflective posture, in which school is imagined more as a space of tension between values, roles, and constraints. However, *Nature/Education* metaphors also remained relevant in this group, potentially reflecting a pedagogical orientation grounded in growth and cycle-based thinking. These results suggest that the symbolic representation of school evolves along the professional trajectory, from more idealized and relational metaphors in early stages, toward more structural, critical, or mission-driven representations in later phases. Metaphors thus function as sensitive indicators of professional orientation, reflective of both affective positioning and institutional literacy. Their systematic use in research and training can offer valuable insight into teachers' evolving

identities, serving as a tool for designing more personalized, meaningful, and context-sensitive training programs.

To further explore the interpretive relevance of metaphorical representations of school, a statistical analysis was conducted to examine the relationship between symbolic themes and three key professional variables: training expectations, perceived training needs, and perceptions of student academic achievement. The hypotheses guiding this phase posited that metaphors connoted by tension, effort, or system-level critique might correlate with stronger instrumental expectations and heightened needs, while more hopeful, natural, or mission-oriented metaphors might reflect confidence, pedagogical clarity, or reduced formative demand.

Contrary to expectations, the results indicated no statistically significant association between metaphor categories and either training expectations ( $\chi^2 = 0.00$ ;  $p = 1.000$ ) or perceived training needs ( $\chi^2 = 0.00$ ;  $p = 1.000$ ). These findings suggest that such variables are transversally distributed across different symbolic frames, indicating that expectations and needs are less influenced by affective or narrative positions, and perhaps more structured by contextual or systemic elements of the training program.

By contrast, a statistically significant correlation emerged between metaphorical category and perception of students' academic achievement ( $\chi^2 = 18.49$ ;  $p = 0.002$ ). Specifically, participants who employed negatively connoted metaphors—such as *“labyrinth,” “educational jungle,”* or *“directionless machine”*—were significantly more likely to express lower evaluations of student performance. Conversely, metaphors oriented toward nature, care, or hope—like *“garden,” “tree,”* or *“light”*—were more frequently associated with neutral or positive assessments.

These findings reinforce the interpretive value of metaphors not only as symbolic snapshots of professional identity, but also as indicators of perceptual orientation toward the school context. In particular, the strong link between metaphor and performance perception suggests that symbolic representations may serve as heuristic filters, influencing how educators interpret and evaluate the educational reality they inhabit. As such, metaphor analysis holds promising potential for informing training interventions aimed at aligning perception, expectation, and professional development.

### 3. Discussion: Metaphors as Interpretive Lenses of Teachers' Perceptions

The quantitative and qualitative findings regarding the perceptions, expectations, and training needs of teachers enrolled in the 30 CFU qualification pathways reveal a complex and stratified picture, particularly when analyzed by professional experience. In this context, the intersection between measured variables (student performance, training expectations, perceived needs) and metaphorical representations of school helps to expand the understanding of objective data by adding a symbolic and subjective layer that is often less accessible to traditional quantitative tools. Quantitative data confirm that experience acts as a mediator of perception: teachers with longer service tend to express more positive evaluations regarding student performance, motivation, and behavior. This progression suggests that over time, teachers develop a greater capacity to interpret school complexity in a systemic rather than an emergent way. However, such differences are not equally reflected anticipated learning outcomes, where group variations do not reach statistical significance.

It is precisely in this apparent stability—where initial goals appear transversal and not significantly differentiated—that the analysis of metaphors reveals its heuristic power. The symbolic images chosen to represent school offer an affective and identity-based interpretive key that escapes standardized statistical analysis.

In particular:

- Specifically, novice teachers tend to prefer metaphors related to nature (e.g., garden, tree, seed) or care, reflecting, conveying a confident and developmental vision of the teaching profession.
- Chaotic or mechanical metaphors (e.g., *labyrinth*, *driverless machine*) become more prominent with increasing experience, indicating the emergence of greater critical awareness of systemic constraints and structural conditions.
- Mission/ideal category appears more frequently among teachers with over ten years of experience, suggesting a mature and consolidated form of reflection that integrates value-based commitment and institutional tension.

The only statistically significant association identified between metaphors and other variables concerns perceptions of student performance: participants who employed negative or chaotic metaphors tended to evaluate student achievement more severely. This finding supports the hypothesis that metaphors act as cognitive

and emotional filters, shaping not only how school is narrated but also how it is interpreted, assessed, and enacted in everyday professional practice.

This implies that symbolic representations are not mere linguistic embellishments but may reflect: implicit beliefs about teaching effectiveness; attitudes toward students; models of professional agency.

The analysis suggests that metaphors can be used not only for descriptive purposes but also as didactic and design tools, useful for: building profiles of self-efficacy and training needs that are more sensitive than standard questionnaires; monitoring the evolution of teacher identity over time by integrating ex-ante and ex-post moments within qualification pathways; fostering reflective practices and educational storytelling, as suggested in the field of *teacher narratives*.

#### **4. Conclusions and Research Perspectives**

This study starts from the idea that teachers' perceptions and expectations—shaped by their individual and shared beliefs—strongly influence their daily practice and, in turn, student learning. Understanding the initial views and self-perceptions of participants in qualification pathways is therefore vital for improving the effectiveness of teacher-training programmes.

The data show that teachers begin these courses hoping to enhance their instructional, relational and reflective skills, yet many struggle to translate theory into classroom practice. Combining quantitative results with the metaphors teachers use sheds light on the implicit beliefs, emotions and professional identities that standard instruments often overlook.

The metaphors unveil a multifaceted symbolic landscape—spanning hope and crisis, care and chaos, idealism and systemic tension—distributed differently across roles, experience levels and expectations. These images work as mental and emotional filters: they influence how teachers read the school context, judge their own efficacy and approach professional development.

Notably, negative or chaotic metaphors are linked to lower evaluations of student performance, while nature-, care- or growth-based metaphors correspond to more optimistic views. Metaphor analysis thus moves us beyond a one-dimensional reading of training needs. Metaphors are not mere stylistic devices; they can shape the design and focus of teacher learning in ways that are authentic and sensitive to context.

Future research should examine the narrative, emotional and strategic roles of these metaphors in greater depth and integrate them into profiling tools, formative assessments and longitudinal studies to track identity development and refine interventions.

As both a hermeneutic and design element, metaphor connects subjective experience, professional belief and educational planning. Using it deliberately can lead to more tailored and effective qualification pathways and foster a form of 'symbolic listening' that supports sustainable, reflective and impactful professional growth. Future teacher education programs must leverage such symbolic insights to bridge the gap between perceived identity and effective instructional agency.

### **Author contributions**

All authors collaborated on the final review, revisions, and approval of the manuscript. However,

Maria Concetta Carruba is author of the following parts: Introduction and Conclusion

Elisabetta Lucia De Marco is the author of the following parts: 1. Theoretical framework and research aims

Maria Ermelinda De Carlo is author of the following parts: 2. Methodological background

Andrea Tinterri is author of the following parts: 3. Discussion: Metaphors as Interpretive Lenses of Teachers' Perceptions

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