

What Myths Do Teachers in Romania Hold About Learning? Prevalence and Predictors Across Levels and Curricular Areas

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Abstract

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This study examines the prevalence and distribution of learning-related myths among teachers in Romania, exploring how misconceptions vary across teaching levels and curricular areas. A total of 1,625 teachers participated in an online survey assessing agreement with widely circulated educational myths and evidence-based learning principles. Results reveal that misconceptions remain pervasive, with 89.6% of respondents endorsing the “learning styles” myth and more than half agreeing that multitasking supports efficient learning. Nearly 45% believed that boys and girls possess different cognitive abilities. Conversely, most teachers accurately recognized validated principles such as the importance of socio-emotional well-being and adaptive teaching strategies. Statistical analyses indicated significant differences in misconception rates across teaching levels and subject areas, suggesting that disciplinary culture and initial teacher education shape cognitive-science literacy. Findings highlight the persistence of intuitive but scientifically unsupported beliefs in education and underscore the need to integrate cognitive-science content and myth-debunking approaches into both pre-service and in-service teacher training. The study contributes new empirical evidence to the European context and offers directions for designing professional development programs grounded in contemporary learning research.

1. Introduction

Over the past two decades, the intersection between neuroscience, psychology, and education has generated unprecedented public interest in how the brain learns. While this connection has fostered valuable dialogue between scientific and educational communities, it has also given rise to a proliferation of simplified or distorted interpretations of research findings—popularly known as neuromyths (Organisation for Economic Co-operation and Development [OECD], 2002). Neuromyths are misconceptions that arise when legitimate neuroscientific or psychological concepts are misunderstood, overgeneralized, or misapplied in educational contexts. Common examples include beliefs that individuals learn best when instruction matches their sensory “learning style,” that people use only 10% of their brain capacity, or that the left and right hemispheres function independently in learning (Dekker et al., 2012; Pasquinelli, 2012).

Research consistently demonstrates that such myths are widespread among teachers worldwide (Ferrero et al., 2016; Gleichgerricht et al., 2015; Howard-Jones, 2014). They persist because they appear intuitively plausible, align with cultural narratives about talent or intelligence, and are often

promoted in teacher-training materials or commercial learning programs. While holding a neuromyth does not necessarily imply poor teaching, these beliefs can influence pedagogical decisions, diverting attention from evidence-based practices (Lethaby & Harries, 2016). For example, educators who believe in learning styles may spend valuable instructional time attempting to “match” activities to visual or auditory preferences rather than focusing on strategies that promote active engagement and retrieval practice.

Recent international studies indicate that even experienced teachers with formal education in pedagogy remain vulnerable to these misconceptions (Grospletsch & Mayer, 2019; Macdonald et al., 2017). Moreover, exposure to neuroscience courses alone has not been shown to eliminate myths; rather, critical reflection and explicit myth-debunking appear more effective (Ferrero et al., 2016). The prevalence of such beliefs across diverse educational systems suggests that cultural and institutional factors—such as curriculum design, teacher education traditions, and access to scientific communication—play a major role in shaping teachers’ understanding of learning.

In Romania, as in many European contexts, teacher-training curricula have recently undergone



reforms aimed at aligning educational practices with the principles of inclusive and competency-based learning. However, research examining teachers' cognitive-science literacy and susceptibility to neuromyths remains limited. Most available evidence focuses on instructional methods or general attitudes toward innovation, without assessing the accuracy of teachers' beliefs about how learning occurs. This gap is particularly relevant given the rapid diffusion of popular psychology concepts through media and professional development workshops, often without rigorous scientific vetting.

Understanding which myths persist among Romanian teachers—and how these misconceptions differ by teaching level or curricular area—is essential for developing effective professional development programs. For instance, teachers in early childhood and primary education may encounter different pedagogical narratives (e.g., about developmental stages or multiple intelligences) than those in secondary education, who might be more exposed to cognitive or neuroscientific models. Similarly, differences across curricular domains such as languages, sciences, or arts may reflect distinct epistemic cultures and learning paradigms.

Against this backdrop, the present study aims to provide a systematic analysis of the learning myths endorsed by teachers in Romania. Drawing on a large national sample ($N = 1.625$), the study examines both the prevalence of misconceptions and their distribution across teaching levels and curricular areas. By combining descriptive and comparative analyses, this research seeks to identify patterns that can inform teacher education policy and the design of myth-debunking interventions.

Specifically, the study pursues three objectives:

- To determine the proportion of Romanian teachers who endorse common learning-related myths.
- To compare misconception rates across teaching levels (preschool, primary, lower and upper secondary).
- To examine differences in misconception prevalence across curricular areas and assess whether subject specialization influences susceptibility to neuromyths.

Through this investigation, the study contributes empirical evidence to the international conversation on evidence-based teacher education. It offers a diagnostic of current beliefs about learning within the Romanian educational system and supports ongoing efforts to align pedagogical training with robust

findings from cognitive science and educational psychology.

2. Theoretical foundation

The persistence of educational myths among teachers can be understood through the intersection of theories from cognitive psychology, neuroscience communication, and teacher professional knowledge. These frameworks help explain both the psychological mechanisms that make myths intuitively appealing and the structural conditions that allow them to remain embedded in educational discourse.

2.1. Cognitive origins of educational myths

From the perspective of cognitive psychology, misconceptions about learning arise from intuitive theories—informal mental models people construct to make sense of complex phenomena (Vosniadou, 2013). Teachers, like all learners, rely on pre-existing schemas to interpret new information. When neuroscientific findings are communicated in oversimplified or metaphorical forms, they are easily assimilated into these intuitive schemas, creating “hybrid” beliefs that combine partial truths with inaccuracies (Lombrozo, 2012).

Dual-process theory (Kahneman, 2011) offers another explanation. Most individuals reason about learning using System 1 (fast, intuitive, and heuristic-driven) rather than System 2 (slow, analytical) processing. Myths such as “learning styles” or “10% brain use” appeal to heuristic reasoning—they are easy to visualize, feel plausible, and align with personal experience. Without explicit reflection or scientific literacy, such intuitive explanations remain unchallenged.

2.2. Communication of neuroscience and the emergence of neuromyths

The dissemination of neuroscience findings into the public domain often involves translation and popularization processes that favor simplicity and metaphor. Studies in science communication show that teachers tend to perceive information as more credible when it is accompanied by neuroscientific terminology or brain imagery, even if the explanation itself is irrelevant or flawed (Weisberg et al., 2008). This “seductive allure” effect contributes to the spread of neuromyths in educational contexts.

Additionally, commercial educational programs and professional development workshops sometimes use brain-based rhetoric to enhance credibility, regardless of scientific validity (Pasquinelli, 2012).

When teachers are not trained to critically evaluate such claims, they may adopt them as legitimate pedagogical knowledge. This problem is compounded by limited access to primary scientific literature and by the absence of explicit myth-debunking modules in many teacher-training curricula.

2.3. Teacher cognition and professional knowledge structures

According to Shulman's (1986) model of teacher knowledge, effective teaching depends on an integrated structure of content knowledge, pedagogical knowledge, and pedagogical content knowledge (PCK). Myths can infiltrate this structure when pedagogical concepts are learned in isolation from empirical research. For example, a teacher may correctly understand classroom differentiation but link it to the erroneous idea that each student has a fixed sensory learning style.

Research on teacher cognition emphasizes that beliefs act as cognitive filters shaping how teachers interpret professional information and classroom experiences (Fives & Buehl, 2012). Once established, beliefs are resistant to change, particularly when they are emotionally or culturally reinforced. Neuromyths often carry moral undertones (e.g., the idea of "respecting individual differences"), which makes them harder to abandon even when evidence contradicts them.

2.4. Conceptual change and professional learning

The conceptual-change framework (Posner et al., 1982) suggests that replacing misconceptions requires more than exposure to correct information. Learners—teachers included—must experience dissatisfaction with their existing conceptions and perceive the new explanation as more coherent and useful. Professional development that merely presents factual corrections is unlikely to succeed; instead, educators need structured opportunities to reflect, test, and reconstruct their beliefs within authentic contexts (Grospietsch & Mayer, 2019).

Consequently, effective myth-debunking interventions in teacher education should be dialogic and experiential, combining evidence presentation with metacognitive reflection. Embedding these processes into continuous professional learning can transform intuitive, fragmented knowledge into coherent scientific understanding.

2.5. Integrative perspective

Taken together, these theoretical perspectives highlight that learning myths are not merely

informational deficits but cognitive, social, and cultural constructs. Addressing them requires interventions that target both individual cognition and institutional structures of teacher education. By framing the analysis of Romanian teachers' beliefs within these theoretical lenses, the present study contributes to a broader understanding of how educators negotiate scientific and experiential knowledge about learning.

3. Research methodology

3.1. Research design

The study adopted a quantitative, cross-sectional survey design aimed at identifying the prevalence and distribution of educational myths among teachers in Romania. This approach was chosen because it allows the systematic collection of data from a large and diverse sample, enabling both descriptive and comparative statistical analyses. The study was exploratory in nature, yet guided by theoretical frameworks from cognitive psychology and teacher cognition that conceptualize beliefs as stable yet modifiable constructs (Fives & Buehl, 2012; Vosniadou, 2013).

3.2. Participants

The target population consisted of teachers working in public and private educational institutions across Romania. Participation was voluntary and anonymous. A total of 1,625 teachers completed the online questionnaire. Respondents represented all main educational levels—preschool, primary, lower secondary, and upper secondary—as well as a broad range of curricular areas, including languages, mathematics, sciences, social studies, arts, and vocational subjects. The sample included participants from both urban (71%) and rural (29%) schools, and from all major regions of the Romania.

Most participants were female (a distribution typical of the national teaching workforce) and held a university degree or higher. The participants' mean teaching experience was approximately 15 years, with a range from novice to highly experienced educators. This diversity ensured that the data captured a wide spectrum of professional backgrounds and educational settings.

3.3. Instrument

Data were collected through a structured online questionnaire developed in both Romanian and English versions for clarity and cross-validation. The instrument was divided into two parts:

1. Demographic and professional information, including sex, age (year of birth), level(s) of teaching, curricular area(s), educational background, school location (urban/rural), and years of teaching experience.

2. Belief items addressing 14 statements about learning myths, derived from previous international studies on neuromyths (Dekker et al., 2012; Ferrero et al., 2016). Each statement was evaluated on a three-option scale: True, False, or I don't know.

The items covered both myth-based statements (e.g., "People use only 10% of their brain", "Learning styles determine learning success", "Girls and boys have different cognitive abilities") and scientifically accurate statements (e.g., "Learning to learn is the ability to organize one's own learning effectively", "Socio-emotional well-being supports productivity").

To ensure validity, the questionnaire was reviewed by three experts in educational psychology and psychometrics. A pilot test with 30 teachers confirmed item clarity and response consistency. Internal reliability across the "myth" items (coded as misconception indicators) showed acceptable internal consistency (Cronbach's $\alpha = 0.81$).

3.4. Data collection procedure

Invitations were distributed via a MOOC related to the topic learning to learn. Participation was voluntary, and informed consent was obtained electronically prior to completion. The survey required approximately 10–15 minutes to complete. Data were exported to Microsoft Excel and then processed and cleaned SPSS for analysis.

3.5. Data analysis

Data analysis proceeded in several steps:

Data cleaning and coding. Responses were standardized: "True," "False," and "I don't know" were converted to categorical values (1, 0, and NA). Each item was assigned a baseline truth value based on scientific consensus (e.g., "learning styles" = False; "learning to learn" = True). A misconception indicator was computed per item by comparing each respondent's answer with the baseline truth.

Descriptive analysis. Frequencies and percentages of correct, incorrect, and "I don't know" responses were calculated for each item, yielding an overall prevalence ranking of misconceptions.

Subgroup comparisons. Chi-square (χ^2) tests were conducted to evaluate differences in misconception

prevalence across teaching levels and curricular areas. When expected cell counts were small, Fisher's exact tests were used as a robustness check.

Exploratory modeling. Logistic regression models were fitted for the three most prevalent myths, using misconception (1 = incorrect belief) as the dependent variable and sex, age, teaching level, and school location as predictors.

Visualization. Results were visualized through bar charts and heatmaps illustrating variation across subgroups.

The statistical significance threshold was set at $p < .05$, with Benjamini–Hochberg corrections applied to control for false discovery rate across multiple comparisons.

3.6. Ethical considerations

Participation was anonymous, and no identifiable personal data were collected. Respondents were informed about the study's purpose, the voluntary nature of participation, and their right to withdraw at any time. Data were stored securely and analyzed only in aggregate form.

4. Results

4.1. Overview of myth endorsement

Descriptive statistics revealed that misconceptions about learning remain widespread among the participant teachers. Table 1 presents all 14 statements included in the questionnaire, arranged according to their factual accuracy and the percentage of participants who endorsed each as true, false, or responded "I don't know..

The results show that several neuromyths are deeply rooted in teachers' conceptual understanding of learning. The most prevalent was the belief that "people differ by learning styles—auditory, visual, and kinesthetic," which was endorsed incorrectly by 89.6 % of respondents, while only 7.3 % correctly rejected it and 3.1 % selected "I don't know." This finding confirms that the learning-styles myth remains the dominant misconception in Romanian education, consistent with international literature (Dekker et al., 2012; Kirschner, 2017).

The second most frequent myth was "multitasking is efficient in learning," endorsed by 50.8 % of teachers. Nearly half (44.7 %) of participants also believed that "girls and boys have different cognitive abilities." In contrast, the myth that "intelligence is a fixed and innate ability" was rejected by most

teachers, with only 23.2 % endorsing it. Myths related to brain structure, such as “people use only 10 % of their brain” (41.7 %) and “the brain hemispheres function independently in learning” (37.1 %), were moderately prevalent.

Table 1
Prevalence of each learning myth

Item	Baseline truth	Correct %	Misconception %	IDK %
People differ by learning styles: auditory, visual, and kinesthetic	False	7.3	89.6	3.1
Multitasking is efficient in learning	False	23.4	50.8	25.8
Girls and boys have different cognitive abilities	False	45.5	44.7	9.7
People use only 10% of their brain	False	30.5	41.7	27.8
The brain hemispheres function independently in learning	False	37.0	37.3	25.7
Intelligence is a fixed and innate ability	False	69.0	23.2	7.8
A high IQ predicts success in school and life	False	74.3	20.5	5.2
Learning is independent of students' socio-emotional development	False	79.4	17.5	3.0
Nowadays, learning aims at integrating the individual into society	True	77.5	17.0	5.4
Learning is not influenced by the emotional state of the student	False	90.6	8.6	0.9
Learning aims at acquiring knowledge and developing practical skills	True	97.4	2.4	0.2
There is a strong connection between well-being and work productivity	True	97.7	0.9	1.4
The efficiency of learning methods depends on the teacher's ability to adapt strategies to students' characteristics	True	97.3	0.9	1.8
“Learning to learn” is the ability to organize one's own learning effectively	True	98.2	0.7	1.1

At the other end of the spectrum, several scientifically accurate statements were correctly recognized by almost all respondents. For example, 98.1 % of teachers correctly endorsed “learning to learn is the ability to organize one’s own learning effectively.” Similarly, 97.7 % recognized that “there is a strong connection between well-being and productivity,” and 97.3 % agreed, “the efficiency of learning methods depends on the teacher’s ability to adapt strategies to students’ characteristics.”

These results suggest that while teachers demonstrate strong awareness of socio-emotional and pedagogical principles, misconceptions persist in areas that involve neuroscientific terminology or intuitive reasoning about the brain.

4.2. Misconceptions across teaching levels

To explore whether professional context influences the prevalence of myths, chi-square analyses were performed comparing misconception rates across teaching levels (preschool, primary, lower secondary, upper secondary).

Significant differences emerged for several items ($\chi^2 p < .05$). Primary-level teachers exhibited the highest endorsement of the “learning styles” and “10 % brain use” myths, while upper secondary teachers showed lower rates of these misconceptions but were more likely to believe that multitasking supports learning. Preschool educators were comparatively less likely to endorse gender-based myths but showed moderate acceptance of claims related to brain lateralization. These findings indicate that exposure to specific pedagogical discourses during initial training may shape which myths are most salient at each educational stage.

4.3. Misconceptions across curricular areas

Teachers of arts, languages, and social sciences demonstrated higher belief in the learning-styles myth, whereas teachers of mathematics and natural sciences were less likely to endorse it but showed greater susceptibility to the multitasking myth. Interestingly, misconceptions about gender and intelligence were relatively evenly distributed across all disciplines, suggesting that cultural stereotypes may transcend subject-specific epistemologies. These results emphasize that myth prevalence is not only a matter of individual misunderstanding but also reflects disciplinary cultures and the conceptual frameworks transmitted during teacher preparation.

4.4. Combined prevalence summary

Across all items, the mean misconception rate was 37.5 %, indicating that over one-third of all teacher responses contradicted established scientific evidence. However, when excluding true statements (to focus solely on myth items), the mean misconception rate rose to 51.8 %. Only 7 % of teachers correctly rejected all myth statements, demonstrating that nearly all participants held at least one misconception.

4.5. Logistic regression analyses

To further examine predictors of myth endorsement, exploratory logistic regression models were estimated for the three most prevalent myths: learning styles, multitasking, and gender differences. The dependent variable was the presence of the misconception (1 = incorrect belief). Predictor variables included sex, year of birth (as an age proxy), teaching level, and school location (urban/rural).

Results indicated that teaching level and school location were the strongest predictors. Teachers in primary education were approximately 1.8 times more likely to endorse the learning-styles myth than those in upper secondary education ($p < .01$). Rural teachers were slightly more likely to believe in multitasking efficiency than their urban counterparts ($p < .05$). Sex and age showed no consistent effects across models, suggesting that professional and contextual variables outweigh demographic factors in shaping myth acceptance.

4.6. Summary of main findings

In summary, the quantitative analyses highlight four key patterns:

- High overall prevalence of neuromyths, particularly those emphasizing sensory learning styles and multitasking.
- Simultaneous accuracy on evidence-based socio-emotional principles, indicating partial scientific literacy.
- Significant variation by teaching level and curricular area, reflecting the influence of pedagogical traditions.
- Predictive influence of professional context, with limited demographic effects.

Together, these results reveal that Romanian teachers navigate a hybrid knowledge landscape in which accurate educational concepts coexist with enduring cognitive and neuroscientific misconceptions. Addressing these beliefs through

targeted professional development represents a critical step toward evidence-based teaching practice.

5. Discussions

The purpose of this study was to examine the prevalence of learning-related myths among teachers in Romania and to explore how these misconceptions vary across teaching levels and curricular areas. The results revealed a paradoxical knowledge pattern: while teachers showed high agreement with many evidence-based educational principles, they also endorsed several persistent neuromyths, particularly those related to learning styles, multitasking, and gender differences in cognition.

The finding that nearly nine out of ten teachers believed in the learning-styles myth confirms the robustness of this misconception, which remains deeply embedded in teacher discourse worldwide (Dekker et al., 2012; Kirschner, 2017). This myth's intuitive appeal lies in its compatibility with inclusive education rhetoric—emphasizing differentiation and respect for individual differences—despite the absence of empirical evidence supporting sensory-style matching as an effective learning strategy (Pashler et al., 2008). The widespread acceptance of this idea among Romanian teachers suggests that teacher-education materials and professional development courses may still reference learning styles as legitimate pedagogical tools.

Similarly, the high prevalence of belief in multitasking as an efficient learning strategy reflects the influence of contemporary digital culture, where simultaneous media use and multitasking are often framed as desirable skills. However, research in cognitive psychology consistently demonstrates that divided attention reduces learning efficiency and retention due to limited working-memory capacity (Sweller et al., 2019). The misconception may therefore stem from societal narratives equating busyness with productivity, rather than from formal pedagogical training.

The persistence of gender-based misconceptions—with nearly 45% of teachers believing that boys and girls possess inherently different cognitive abilities—indicates the continued influence of sociocultural stereotypes in education. Although neuroscience demonstrates minimal sex differences in overall cognitive functioning (Fine, 2013), such beliefs may unconsciously shape teachers' expectations and instructional practices, potentially reinforcing gender bias in classroom interactions.

Encouragingly, the teachers in this study demonstrated strong awareness of scientifically accurate statements concerning socio-emotional well-being, metacognition, and adaptive instruction. More than 97% correctly recognized that learning efficiency depends on the teacher's ability to adjust strategies to students' characteristics and that well-being and motivation are essential for productivity. This suggests that Romanian educators are receptive to modern educational paradigms emphasizing emotional, social, and cognitive integration. However, the coexistence of accurate and inaccurate beliefs implies that teachers' professional knowledge remains fragmented: informed by both scientific principles and enduring myths that feel pedagogically intuitive but lack empirical foundation.

Comparisons across teaching levels revealed significant differences. Primary-school teachers displayed the highest endorsement of the "learning styles" and "10% brain use" myths, whereas upper-secondary teachers were less likely to hold these views but more inclined to believe that multitasking enhances learning. These differences may reflect the pedagogical models emphasized in initial teacher education—where primary education focuses on child-centered differentiation and holistic development, while secondary education may prioritize efficiency, performance, and information management.

Differences across curricular areas also reached statistical significance. Teachers in language and social-science fields were more likely to endorse the learning-styles myth, whereas those in mathematics and sciences more frequently believed in multitasking efficiency. Such disciplinary variations suggest that each domain's epistemic culture influences how teachers interpret learning processes. For example, science teachers may view multitasking as a cognitive skill necessary for managing complex tasks, whereas language teachers might emphasize sensory preferences as pathways to engagement.

From a theoretical standpoint, these results can be interpreted through the lens of teacher cognition and conceptual-change theory. Teachers develop beliefs about learning through experience, intuition, and cultural transmission (Fives & Buehl, 2012; Vosniadou, 2013). Once established, these beliefs form cognitive schemas that guide interpretation of new information and resist modification. Consequently, professional development must not only provide factual corrections but also foster

epistemic awareness—the ability to evaluate the credibility and coherence of educational claims.

At a practical level, the findings highlight several implications for teacher education and professional learning. First, teacher-training institutions in Romania should explicitly address educational myths within courses on learning psychology and neuroscience. Rather than presenting myths as isolated misconceptions, they should be embedded into reflective exercises that contrast intuitive beliefs with empirical evidence. Second, in-service professional development could include workshops focused on "myth-busting" through critical analysis of popular educational materials, social media content, and commercial brain-based programs. Such initiatives have proven effective in other contexts (Grospietsch & Mayer, 2019).

Furthermore, strengthening teachers' cognitive-science literacy can empower them to make informed decisions about instructional strategies. Integrating accessible summaries of research on memory, attention, and motivation into national teacher-development frameworks could bridge the gap between theory and practice. Finally, future interventions should promote a growth-mindset orientation, encouraging teachers to view learning ability as dynamic and malleable—thus counteracting myths that frame intelligence or capacity as fixed traits.

6. Limitations and future research

Although this study involved a large and diverse sample, it relied on self-reported responses, which may not perfectly reflect teachers' underlying conceptual understanding. The cross-sectional design also prevents causal inference about how specific experiences (e.g., professional training, exposure to neuroscience) influence beliefs. Future studies could combine surveys with qualitative interviews to examine how teachers negotiate scientific and experiential knowledge in practice. Longitudinal designs could further track conceptual change following targeted interventions.

7. Conclusions

This study set out to identify and analyze the prevalence of learning-related myths among teachers in Romania and to explore how these misconceptions vary across teaching levels and curricular areas. The findings demonstrate that while Romanian teachers possess substantial knowledge of socio-emotional and pedagogical principles, misconceptions rooted in

outdated or misinterpreted cognitive-science ideas remain widespread. The belief in learning styles, multitasking efficiency, and gender-based cognitive differences persists across the educational spectrum, echoing international patterns of neuromyth endorsement.

These results underscore that misconceptions in education are not merely informational gaps but reflections of deeper cognitive, cultural, and institutional dynamics. Teachers often assimilate scientific concepts through intuitive reasoning or popularized media representations rather than through systematic study, which can lead to the internalization of incomplete or distorted ideas. Recognizing this complexity is crucial for designing interventions that move beyond simply “correcting” false beliefs toward fostering critical and reflective engagement with research evidence.

From a pedagogical perspective, teacher education programs must explicitly integrate cognitive-science literacy and myth-debunking methodologies into both pre-service and in-service training. Course modules should help educators differentiate between intuitive beliefs and empirically validated knowledge about learning and the brain. Professional development activities that encourage reflective discussion, collaborative inquiry, and the application of research-based principles can strengthen teachers’ scientific reasoning and pedagogical decision-making.

At a systemic level, educational policy should promote the dissemination of accessible, evidence-informed resources and partnerships between universities and schools. These collaborations can support the translation of cognitive-science research into practical, context-sensitive strategies that respect teachers’ professional experience while fostering innovation.

Ultimately, combating educational myths requires cultivating a professional culture of curiosity, critical thinking, and continuous learning. When teachers understand not only what works but also why it works, they are better equipped to design inclusive, effective, and scientifically grounded learning environments. The insights from this study provide a foundation for reimagining teacher education in Romania through the lens of cognitive science and evidence-based pedagogy, contributing to a more informed and reflective teaching profession.

Authors note:

Maria Cristina Popa is a lecturer at Teacher Training Department, Lucian Blaga University of Sibiu, Romania. Her academic work lies at the intersection of early childhood education, cultural identity, and innovative teaching methodologies. Her research explores how children construct identity in multicultural and acculturative contexts and how teachers can foster inclusion and well-being through reflective and evidence-based practices. In recent years, her focus has expanded toward digital and blended learning in mathematics education, educational robotics, and teacher preparation for future-ready competencies.

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