



## DESIGNING A NEEDS-BASED PROFESSIONAL DEVELOPMENT PROGRAM FOR GERMAN LANGUAGE TEACHERS: EVIDENCE FROM GREECE

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### Abstract:

This study explores the design of a professional development program tailored to the specific needs of German language teachers in Greece. Utilizing a qualitative case study approach, semi-structured interviews were conducted with eleven in-service teachers to identify thematic priorities, preferred training models, and organizational parameters for effective professional development. The findings reveal a strong demand for training in artificial intelligence, digital tools, classroom management, differentiated instruction, and subject-specific pedagogy. Teachers express preferences for medium-duration, blended training formats and emphasize the importance of linking theory with practice. They also advocate for the involvement of universities and collaborative institutional models in program delivery. The study concludes by proposing a flexible, evidence-based framework for teacher development, grounded in international best practices and co-designed by educational stakeholders.

**Keywords:** teacher professional development, German language education, educational needs

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## 1. Introduction

In recent years, the teaching profession has undergone profound transformations due to the rapid integration of digital technologies, growing classroom diversity, and heightened socio-emotional demands placed on educators. Foreign language (FL) teachers, in particular, operate in increasingly complex environments where they must simultaneously foster linguistic competence, intercultural awareness, and learner autonomy (OECD, 2024). This evolving landscape underscores the urgent need for targeted, flexible, and evidence-based professional development (PD) programs that reflect teachers' real-world challenges and instructional contexts (Richter & Richter, 2024).

Traditional models of in-service training have often been criticized for their standardized, top-down structure, which limits their relevance and long-term impact on teaching practice (Avalos, 2011; Borg, 2018). Contemporary research instead highlights the importance of sustained, needs-based PD that fosters teacher agency, collaboration, and continuous reflection (Korthagen, 2017; Sims & Fletcher-Wood, 2021). High-quality PD is now understood as a process rather than an event—one that integrates formal and informal learning, context-sensitive content, and iterative cycles of implementation and feedback (Darling-Hammond, Hyler, & Gardner, 2017).

Furthermore, the digital shift in education—accelerated by the COVID-19 pandemic—has amplified the relevance of hybrid and online PD models, which offer scalability, personalization, and accessibility (Stavermann, 2024; Bragg, Walsh, & Heyeres, 2021). Recent studies confirm that when well-designed, blended learning formats can match or even surpass the pedagogical impact of traditional face-to-face programs, particularly when they incorporate interactive elements, coaching, and communities of practice (Fütterer, Richter, & Richter, 2024).

Despite these advancements, there remains a lack of context-specific research on the needs of FL teachers, especially in settings such as Greece, where policy shifts and institutional constraints shape educators' access to professional learning. This study aims to address this gap by presenting a qualitative case study that investigates the professional development needs of German language teachers in Greek secondary schools. The objective is twofold: (a) to identify thematic priorities, preferred training formats, and institutional conditions that support meaningful PD; and (b) to propose a comprehensive and sustainable PD framework grounded in empirical findings and international best practices.

## 2. Theoretical Framework

### 2.1. Conceptual Clarifications

In teacher education, especially within foreign language instruction, it is essential to distinguish between training, in-service training, and professional development (Sims & Fletcher-Wood, 2021; Darling-Hammond, Hyler, & Gardner, 2017). Training generally

refers to focused, short-term activities aimed at acquiring specific skills, such as workshops or micro-teaching, emphasizing immediate practical application over reflection (Darling-Hammond et al., 2017). In-service training, a subset of training, occurs while teachers are actively employed and includes structured, time-limited sessions linked closely to classroom realities (Mihulka & Adamczak-Krysztofowicz, 2023). Professional development (PD), by contrast, entails long-term, multifaceted processes including formal and informal learning, collaborative inquiry, and reflective practice (Sims & Fletcher-Wood, 2021). High-quality PD is characterized by clarity, cognitive activation, collaboration, and practical relevance, fostering sustained teacher growth (Richter & Richter, 2024). Moreover, online PD formats that promote interactivity and personalization have shown enhanced engagement and effectiveness compared to traditional models (Fütterer, Richter, & Richter, 2024). Recognizing these distinctions is fundamental for designing effective professional learning tailored to teacher needs.

## **2.2. Professional Needs and Context of Foreign Language Teachers**

Foreign language teachers express diverse and evolving professional needs shaped by pedagogical demands, institutional contexts, and personal factors (Borg, 2018). Methodologically, teachers seek sustained support in communicative and learner-centered approaches, classroom management, and digital tool integration (Garton & Richards, 2016). Collaborative PD models, such as peer observation and reflective practices, are particularly valued for contextual adaptation (Nguyen, 2023). Curricular reforms emphasizing intercultural competence, formative assessment, and learner autonomy further challenge teachers, who often report difficulties aligning policy with classroom practice (Borg, 2018; Mihulka & Adamczak-Krysztofowicz, 2023). Additionally, linguistic proficiency maintenance and psychological well-being constitute critical support areas, as emotional exhaustion and institutional isolation affect motivation and retention (Mercer, 2023). Teacher agency in identifying their own needs underscores the importance of flexible, teacher-informed PD content and delivery formats, particularly digital and blended models that offer adaptability and interactivity (Korthagen, 2017; Richter & Richter, 2024; Fütterer, Richter, & Richter, 2024). Effective PD must therefore address methodological, curricular, linguistic, emotional, and institutional dimensions in an integrated manner.

## **2.3. Needs-Based Targeted Professional Development: Foundations, Teacher Agency, and Institutional Dimensions**

There is growing consensus that effective foreign language teacher development requires needs-based, context-sensitive professional learning that goes beyond generic, standardized training models (Richter & Richter, 2024; Korthagen, 2017). Traditional in-service training often follows a one-size-fits-all approach, which has been criticized for limited engagement and insufficient impact on classroom practice (Borg, 2018; Fütterer, Richter, & Richter, 2024). Needs-based professional development is grounded in rigorous and systematic needs analysis that combines qualitative and quantitative

methodologies—such as surveys, interviews, focus groups, and classroom observations—to identify gaps between teachers' current competencies and the evolving demands of their educational contexts (Guskey, 2002; Garton & Richards, 2016). This process enables the design of PD that is both relevant and responsive, increasing the likelihood of knowledge transfer and sustained implementation (Darling-Hammond, Hyler & Gardner, 2017). Importantly, when teachers perceive direct relevance between PD content and their instructional challenges, their engagement and motivation intensify (Avalos, 2011). Central to needs-based PD is the recognition of teacher agency, which positions educators as reflective professionals actively shaping their developmental trajectories (Sachs, 2016). Integrating teacher voice into PD design enhances ownership, relevance, and motivation, especially when the content addresses domain-specific challenges such as pronunciation instruction, intercultural competence, or authentic materials use (Korthagen, 2017). This collaborative approach supports a shift from passive recipients of training to autonomous learners and change agents within their professional communities. The efficacy of needs-based PD depends significantly on institutional structures that provide adequate time, resources, and formal recognition of professional learning activities (Richter et al., 2024; Borg, 2018). Furthermore, follow-up mechanisms such as mentoring, coaching, and collaborative inquiry communities are crucial for reinforcing learning and fostering reflective practice. PD should be conceptualized not as isolated events but as continuous, iterative processes embedded in a culture of inquiry and adaptation (Guskey, 2002; Avalos, 2011).

In the dynamic field of foreign language teaching, where pedagogical demands and sociolinguistic contexts evolve rapidly, needs-based PD that integrates teacher input and institutional backing offers a sustainable path toward instructional excellence and professional empowerment. By centering teacher realities and promoting ongoing reflection and collaboration, such PD models contribute to meaningful pedagogical transformation, improving both teacher well-being and student outcomes.

#### **2.4. Innovative Approaches to Teacher Training in Foreign Language Education**

The professional development of foreign language teachers is a critical factor for improving the quality of teaching and learning. Various types of training contribute to enhancing teachers' knowledge, skills, and pedagogical practices in the international literature. According to Sheridan, Edwards, Marvin, and Knoche (2009), the main types include specialized training, coaching or consultation, and communities of practice. However, recent research and practice have also highlighted additional forms such as mentoring, in-school training, peer evaluation, action research, demonstration teaching, and online professional development.

Professional development is a complex process that must align with the ongoing evolution of language pedagogy, digital technologies, and the sociocultural needs of learners. Contemporary training models range from short, specialized lectures to experiential, collaborative forms that incorporate reflection and school-centered practice (Schachter, 2015; Sheridan et al., 2009). Various types of training contribute to enhancing

teachers' knowledge, skills, and pedagogical practices. According to Sheridan, Edwards, Marvin, and Knoche (2009), the main types include specialized training, coaching or consultation, and communities of practice. However, recent research and practice have also highlighted additional forms such as mentoring, in-school training, peer evaluation, action research, demonstration teaching, and online professional development.

Specialized training involves participation in seminars, conferences, lectures, and programs aimed primarily at transferring knowledge from experts to teachers (Sheridan et al., 2009). Although widely offered due to low cost and ease of organization, its effectiveness is considered limited as it does not promote interactive exchange or practical application of knowledge (Schachter, 2015).

Coaching and consultation are more targeted and individualized forms of training. Coaching is based on collaboration between an experienced educator or specialist and the teacher, aiming to enhance professional practice through reflection, feedback, and support within the school environment (Kennedy, 2014; Sheridan et al., 2009). Consultation has a similar structure but usually involves larger groups of teachers and is provided by specialist consultants (Hanft, Rush, & Shelden, 2004, as cited in Sheridan et al., 2009).

Mentoring is a particularly important form of professional support, especially for novice teachers. In this process, an experienced teacher guides a less experienced colleague by offering practical advice, feedback, and psychological support (Snyder et al., 2012). Mentoring has been shown to be highly effective in introducing new teachers to school culture and boosting their confidence (Kennedy, 2014). In Greece, the formal establishment of the in-school mentor role through Law 4823/2021 (Ministry of Education, 2022) marks an important step in this direction, though implementation is not yet universal. The development of models combining mentoring with action research strengthens teacher autonomy and innovation integration (Anagnou & Fragkoulis, 2014). Communities of practice are groups of teachers with shared interests who collaborate systematically to exchange experiences, engage in collective reflection, and improve professional practice (Wenger, 1998, as cited in Sheridan et al., 2009; Kennedy, 2014). These communities are fostered through group meetings, idea exchanges, and reflective discussions.

A related form is in-school training, which focuses on school-specific needs and is implemented within the school environment. In-school training encourages interaction among colleagues, practical application of knowledge, and cultivation of a collaborative culture. Moreover, its integration into school operations supports sustainability and links training with daily teaching practice (Olawumi & Mavuso, 2024).

Peer evaluation is a reflective form of professional development where teachers observe and assess each other. This process fosters exchange of views, empathy, and critical thinking (Swaffield, 2008). Peer observation and evaluation cultivate metacognitive awareness and an open-classroom culture (Swaffield, 2008).

Demonstration teaching is another training tool connecting theory with practice. During these sessions, teachers observe or conduct lessons in real or simulated settings and reflect on their pedagogical choices (Richards & Farrell, 2012).

Action research empowers teachers as researchers of their own practice. It is a cyclical process of planning, implementation, reflection, and improvement, where teachers focus on real classroom problems and apply targeted interventions (Kemmis, McTaggart & Nixon, 2014).

Digital professional development & micro-credentials. Online PD, MOOCs, and e-coaching modules offer flexibility (Futterer et al., 2024). Micro-credentials — whether in national initiatives (e.g., Delaware World Languages, IB Exchange) or research programs — provide targeted, evidence-based learning and show high satisfaction and positive impact (Scott et al., 2024). In Greece, the platform of the Institute of Educational Policy (IEP) and the Centre for the Greek Language have developed rich material for distance training (IEP, 2022; CGL, 2022).

In summary, professional development for foreign language teachers requires a combination of various training forms, emphasizing collaboration, practice, and reflection. The effectiveness of each type depends on the implementation context, teachers' needs, and support from educational policy.

### **3. Method**

This section presents the research methodology.

#### **3.1 Research Question**

Our research question was: “What are the educational needs of the German language teachers in the sample?”

#### **3.2 Research Method -Research Tool**

The data collection method was qualitative because the purpose of the research is to investigate and understand a central theme (Creswell, 2011). The research strategy followed is a case study (Robson, 2010), since it concerns 11 German language teachers during the school year 2024-2025. According to Mason (2003), the data collection technique or better the data production technique was the semi-structured interview, a tool that enables the sequence of questions to be modified (Cohen & Manion, 1994), the choice of emphasis in the most essential aspects of each respondent (Fylan, 2005; Robson, 2010), but requires critical communication skills from the interviewer (Galletta, 2013). Therefore, this tool has been chosen as the most appropriate to highlight the views of the participants.

#### **3.3 Sample**

The sample (convenience sampling) consists of 11 German language teachers. Among them, 9 are women and 2 are men. In terms of age group, 4 are between 51 and 60 years

old, 4 are between 41 and 50 years old, and 2 are over 60 years old. Regarding teaching experience, it ranges from 10 to 36 years, with most teachers having over 20 years of experience in the field of education. As for their educational background, 6 teachers hold a university degree (Bachelor's), while 5 also possess a Master's degree. Undoubtedly, the participants in this survey do not represent the entire population of German language teachers in Greece, and consequently, the research results are not generalizable.

### 3.4 Data Analysis Method

For the analysis of the collected data, content analysis was used. This is a research method that employs a set of procedures, methods, and techniques to draw valid conclusions (Weber, 1990, p. 9). It is a research technique that systematically and objectively leads the researcher to verifiable and valid conclusions derived from written texts and the decoding of interviews (Krippendorff, 1989, p. 7-9). Furthermore, the thematic content analysis allows quantification of the results (Vamvoukas, 2002), which was attempted in this research.

## 4. Results and Discussion

### 4.1 Teachers' Professional Development Needs: Thematic Preferences and Trends

Mapping teachers' preferences regarding the thematic fields of professional development reveals a complex network of needs reflecting the multidimensional profile of the contemporary teaching role.

Primarily, artificial intelligence and digital technologies emerge as a pivotal learning axis. Indicatively, some teachers express interest in *"artificial intelligence and the use of AI in teaching"* (T1), while others highlight the importance of *"new technologies"* (T4, T9) or more specific applications such as *"foreign language teaching through the use of digital tools in education, virtual reality, and artificial intelligence"* (T10). Additionally, the development of *"multiliteracy and digital literacy skills"* (T8) is emphasized. Relevant international research confirms that systematic professional development in AI literacy enhances teaching differentiation and pedagogical innovation (Casal Otero et al., 2023; Brandão, Pedro, & Zagalo, 2024). Furthermore, comparative studies note that face-to-face training programs slightly outperform exclusively online formats in participant engagement and quality, supporting the adoption of hybrid training models (Mulaimović et al., 2024).

A second area of interest concerns behavior management and psychosocial support for students. Teachers report needs such as *"managing students with concentration difficulties and disruptive behavior"* (T1), seeking *"training by psychologists on strategies for adolescent problem-solving"* (T6), and addressing challenges like *"managing aggressive behavior issues"* (T7) and general *"classroom management"* (T3, T5). A recent meta-analysis by Duan and colleagues (2024) demonstrates that professional development programs emphasizing the creation of a positive classroom climate and socio-emotional competence are linked to higher teacher self-efficacy and lower occupational burnout.

These findings are further supported by Collie's (2023) work on teacher well-being. The preference expressed by participants for practical conflict prevention strategies aligns well with these established international recommendations.

The third thematic axis focuses on instructional specialization within specific subject areas. Several educators emphasize the need to strengthen their scientific and pedagogical training, voicing desires for development "*in scientific fields related to my specialty*" (T2), as well as "*professional development in the pedagogy of my subject area*" (T3). Foreign language instruction remains a key focus, with requests for enhanced "*foreign language teaching*" (T10) and "*interactive lessons and exercises*" (T11). Fukaya et al.'s (2024) recent systematic review and meta-analysis substantiate that interventions targeting pedagogical content knowledge significantly improve both teacher self-efficacy and teaching quality, particularly in mathematics and science. Participants' calls for renewal and diversification of teaching repertoires mirror these conclusions.

A fourth thematic area revolves around learning difficulties and differentiated instruction, with teachers identifying needs such as "*addressing learning difficulties*" (T3, T5). The systematic review by Bi, Struyven, and Zhu (2024) reveals that focused professional development on differentiation principles enhances student engagement and learning outcomes, especially within heterogeneous classrooms. Participants in the present study likewise recognize the necessity for practical tools to support personalized learning.

Finally, some responses go beyond traditional subject-specific knowledge, encompassing interdisciplinary or metacognitive skills, including "*multiliteracy skills*" (T8) and the "*development of skills at school*" (T7). These reflect the spirit of modern education frameworks, particularly the globally promoted "*21st-century skills*." In this vein, recent UNESCO guidelines (2024) on AI competency frameworks and the OECD Education Policy Report (2024) advocate for hybrid professional development models that combine experiential learning sessions, online communities of practice, and micro-credentialing, providing a coherent structure to meet the multilayered needs identified in this study.

The synthesis of thematic trends suggests that effective professional development programs should integrate (a) cutting-edge content in artificial intelligence, (b) strategies to enhance psychosocial resilience and classroom management, (c) deepening of pedagogical content knowledge in specific subjects, (d) differentiated and inclusive teaching techniques, and (e) cultivation of interdisciplinary skills. International literature documents that only unified and developmental professional learning pathways connecting these fields lead to measurable improvements in teaching practice and student achievement.

#### **4.2 Training Models: Teachers' Preferences and Pedagogical Benefits**

The next question investigates teachers' perceptions regarding the most appropriate format for professional development. In a sample of eleven participants, six favored



exclusively face-to-face training, four preferred a blended model, and one chose synchronous/asynchronous distance learning.

(a) Face-to-Face Programs and Social Constructivist Learning

The majority of teachers associate the effectiveness of face-to-face training with the immediacy of communication, collaborative knowledge building, and timely feedback. These insights are consistent with recent findings showing that face-to-face models foster deeper cognitive engagement and reflective dialogue, especially when combined with mentoring and communities of practice (Mulaimović et al., 2024; Amemasor et al., 2025). Vygotsky's social constructivist theory (1978) provides a strong conceptual foundation: learning is primarily a social process rooted in shared interaction.

*"The face-to-face model because the interaction part is very important" (E4); "Face-to-face because there is immediate interaction" (E5); "The face-to-face model" (E6); "The face-to-face model offers significant interaction and strengthens the sense of teamwork" (E7); "Depending on the subject, but I would prefer the face-to-face model because of its immediacy" (E9); "Face-to-face" (E11).*

These responses collectively emphasize that physical presence is not merely a logistical choice, but a pedagogically meaningful factor. Teachers perceive in-person formats as essential for building relational trust, enabling peer support, and fostering a strong sense of community—elements that are often difficult to replicate in virtual environments.

(b) Blended Model: Balance of Flexibility and Interactivity

Participants who favored the blended format highlighted the advantages of combining physical and digital learning environments. They emphasized that this model allows greater flexibility and differentiation while retaining opportunities for real-time collaboration. Meta-analytic evidence supports this view, showing that well-designed blended programs—when incorporating synchronous meetings, targeted activities, and sustained instructor support—can match or surpass the effectiveness of traditional delivery (Stavermann, 2024). Furthermore, tailoring content to teachers' lived experiences through micro-tasks and coaching is recognized as a key driver of meaningful professional growth (Amemasor et al., 2025).

*"Blended model" (E1); "Blended models because they include face-to-face contact, which facilitates interaction between teacher and learner" (E3); "The blended model as a combination of tools and techniques, as a synthesis of e-learning and teacher-centered approaches, better responds to available time and simultaneously face-to-face contact facilitates more interaction" (E8); "Depends on the seminar topic, but maybe blended models are more flexible in attendance" (E10).*

Taken together, these views suggest that teachers increasingly appreciate models that combine structure with autonomy. The blended format is perceived not only as a logistical compromise but as an educationally rich environment—capable of adapting to varying learning styles, professional constraints, and thematic requirements.

### (c) Distance Learning and Autonomous Professional Learning

The choice of exclusively online professional development is linked to the need for self-paced learning and personal autonomy—key tenets of adult learning theory (Knowles, 1984). Research on open and distance education confirms that success in online environments hinges on the quality of the platform, instructor guidance, and the trainer's technological-pedagogical competencies (Yuebo et al., 2024). Nevertheless, major challenges persist, such as the risk of social isolation and learner disengagement, as documented in Cherrstrom et al.'s (2024) systematic review. *"Distance learning because I can manage my time as I wish"* (E2).

While only one participant opted for distance learning, the reasoning behind their choice reflects broader systemic trends: educators seek flexible formats that accommodate their complex schedules and professional workloads. However, maximizing the effectiveness of such models requires deliberate scaffolding, social support structures, and the cultivation of digital engagement strategies.

Overall, the findings align with international policy recommendations. UNESCO (2024) underscores that digital professional development should be framed by communities of practice and continuous mentoring, while the OECD (2024) promotes hybrid frameworks that integrate in-person coaching, micro-credentials, and digital networking. To address teachers' diverse and personalized needs, schools are increasingly encouraged to design flexible professional learning pathways that blend experiential sessions, synchronous online meetings, and asynchronous independent projects.

This integrated vision reflects a shift from "training delivery" to a more dynamic and personalized model of "professional learning design," responding to both systemic priorities and educators' evolving pedagogical realities.

### 4.3 Duration of Professional Development Activities: Teachers' Perceptions and Professional Needs

The majority of teachers expressed a preference for medium-duration professional development activities, typically lasting between 10 and 100 hours, as these are more compatible with their needs and daily routines. As Participant T1 stated, *"Medium duration – 50 hours"*, while T10 explained, *"It depends on the topic of the seminar and the extent to which there is room for in-depth exploration of the subject. Generally speaking, medium-duration activities are more compatible with my daily schedule."* This preference is grounded in the need for a balanced combination of subject matter depth and manageable time commitment.

Participant T5 emphasized their choice by stating that they prefer *"Medium duration... so I can engage in depth without becoming overly burdened."* Similarly, T7 noted *"Medium duration"* as it *"allows for better knowledge assimilation,"* while T8 and T9 agreed, stressing that *"such activities better meet the demands of teaching work"* (T8) *"and the structure of the daily schedule"* (T9).

These preferences align with recent findings suggesting that the duration of professional development is a critical factor in its success, with medium-duration programs offering sufficient time for deeper learning, practical application, and reflection, without being overly time-consuming or exhausting (Desimone & Garet, 2015).

In contrast, several teachers expressed a preference for short-duration professional development activities (1–10 hours), mainly due to the ease of fitting them into their already overloaded schedules. Participant T3 noted *“Short duration,”* emphasizing the need for quick and practical training, while T4 also chose *“Short duration”* as a *“more feasible option within the daily school routine.”* T6 commented that they prefer *“Short duration”* because *“time is limited, and flexibility is essential,”* and T11 added that they choose *“Short duration”* activities *“because they are easier to integrate into my daily workload.”*

These differing preferences reflect the diverse professional needs and time constraints of teachers. As Desimone and Garet (2015) point out, medium-duration programs provide sufficient time for deeper learning and meaningful transformation of teaching practices without becoming overly demanding. At the same time, short-duration activities serve a complementary function, offering targeted opportunities to refresh knowledge and skills—something particularly important for teachers with limited time availability (Darling-Hammond et al., 2017; Hogan et al., 2025).

Furthermore, the research by Opfer and Pedder (2011) highlights that the duration of training directly affects the transfer of knowledge into practice, while Sims and Fletcher-Wood (2021) emphasize that programs lasting between 30 and 80 hours are the ones that offer significant learning benefits—especially when paired with reflective practices and collaborative engagement.

#### **4.4 Teachers’ Preferences Regarding the Timing of Professional Development Activities**

Teachers’ views on the most appropriate timing for professional development activities vary significantly, reflecting their diverse professional and personal circumstances. A large number of participants expressed a preference for training sessions to be conducted outside of regular school hours, citing as key reasons the smooth operation of the school unit and the increased flexibility to attend. As Participant T3 noted, *“Outside school hours so as not to disrupt the smooth functioning of the school.”* T4 added, *“Outside teaching hours for reasons of flexibility,”* and T6 emphasized, *“Outside school hours so that the school’s operation is not affected.”* Similarly, T9 stated, *“Outside school hours—there’s more time available.”* In addition, T8 highlighted the legal dimension of this choice, stressing that *“participation in activities outside working hours, especially on days that are not legally recognized as working days, does not fall under teachers’ official duties.”*

Conversely, some teachers preferred professional development to take place during school hours, emphasizing the importance of preserving their personal time. For instance, T7 explained, *“During school hours, because my personal time is valuable.”* T10 adopted a more balanced stance, suggesting that *“short-duration activities could take place*

*during working days, whereas longer ones should preferably be held outside school hours or during holidays when more time is available."*

This diversity of opinions is also echoed in the international literature, which underscores the need for flexibility in scheduling professional development in order to account for teachers' actual working conditions and numerous responsibilities (Bragg, Walsh & Heyeres, 2021). It is emphasized that scheduling activities at times deemed convenient by the participants themselves is closely linked to increased participation, a sense of autonomy, and, ultimately, the effectiveness of the professional development experience (Unal & Unal, 2023). Effective professional learning requires careful integration into existing work routines, avoiding overload that can discourage engagement and reduce active participation (Lau et al., 2022).

Overall, it becomes clear that the timing of professional development activities cannot be approached with a one-size-fits-all mindset, but rather must be tailored to the diverse needs of educators, enhancing both participation and the sustainability of such initiatives.

#### **4.5 Teachers' Views on the Appropriate Body for Designing and Implementing Professional Development**

When asked about the most suitable body to design and implement professional development programs, teachers tend to prefer institutions that combine academic credibility with practical knowledge of the educational reality. A significant number of participants clearly favor universities as the main responsible entities. This preference is reflected in responses such as: *"I believe that universities are the most suitable institutions to deliver training due to their academic credibility"* (T1), *"University institutions can ensure scientifically grounded and up-to-date content"* (T5), *"I would trust a university to organize professional development because of its expertise and research background"* (T8), and *"Universities combine theory with pedagogical research, making them ideal providers"* (T9). At the same time, many teachers recognize the value of collaboration between different institutions in order to more comprehensively address both the theoretical and practical aspects of professional development. T2 expresses a preference for an organization *"that is in touch with reality and provides substantial support, perhaps the Ministry of Education in cooperation with a university"*. Similarly, T3 suggests that *"the Ministry of Education, in collaboration with university institutions, would be the most effective provider, combining policy direction with academic expertise"*. T6 notes that *"all three of the aforementioned institutions – the Ministry of Education, universities, and Regional Directorates of Secondary Education – are suitable, as they each bring different strengths to the table"*. The emphasis on a close connection with everyday school practice is also evident in responses such as T4's: *"I believe the Directorate of Secondary Education is the most appropriate, as it has direct contact with schools and understands our daily needs"*, and T7's, who supports a collaborative approach: *"A combination of providers would be ideal – for example, a university and the Directorate of Secondary Education – to ensure both academic rigor and practical relevance"*. T10 expands the scope of potential providers even further, highlighting international

partnerships: *"I would include in-service teachers along with institutions like the Goethe Institute, the Austrian Institute, and a university, as they each offer valuable perspectives and resources"*. T11 adopts a more administrative and school-centered perspective, stating: *"The Ministry of Education, in cooperation with school counselors, would be well positioned to understand and support teachers' professional development needs effectively"*. The diversity of responses highlights the importance of a combined and collaborative model of professional development, involving institutions with different expertise and roles. The current literature supports this approach, emphasizing that effective professional development requires coordination among universities, government agencies, and school units (Zhang & Liu, 2021). In particular, the development of cross-sector partnerships is recommended, blending research, educational policy, and the real needs of schools (Liu et al., 2022).

It is also recognized that linking professional development initiatives to individuals and structures actively involved in the education system—such as school counselors and experienced in-service teachers—adds credibility and practical relevance to the training content (Darling-Hammond et al., 2020; Slegers & Thoonen, 2021).

Therefore, a multi-centered model is recommended, in which academics, administrative actors, and field professionals co-develop professional development programs, ensuring both scientific validity and practical applicability.

#### **4.6 The Importance of Connecting Theory and Practice in Teacher Training**

Teachers consistently highlight the need for professional development programs that integrate theoretical knowledge with practical application. This demand is reflected in responses such as: *"Presentation – linking theory and practice"* (T1), *"I would be interested in a presentation combined with practical applications of the theory and definitely model teaching"* (T2), and *"Model lessons and connection between theory and practice"* (T4, T6, T9). This approach is widely supported by the research literature, which emphasizes that effective professional development enhances classroom knowledge transfer when it is based on combined models of theory and practice (Darling-Hammond et al., 2017; Opfer & Pedder, 2011).

In particular, model teaching is recognized as especially valuable for fostering reflective thinking, allowing teachers to observe and analyze innovative teaching strategies in practice, which they can then adapt to their own contexts (Liu & Phelps, 2020; Borko, 2004). At the same time, the value of collaborative techniques is highlighted, as T5 states: *"I believe mixed methods are needed so that all approaches can be demonstrated"*. Collaboration within Professional Learning Communities (PLCs) promotes shared meaning-making, mutual support, and the enhancement of teachers' professional autonomy (Vescio et al., 2008; Slavit et al., 2021).

Equally important is the personalization of professional development initiatives to account for teachers' specific needs, experiences, and learning profiles (Kraft et al., 2018). Such differentiation maximizes the relevance of the content provided and increases the likelihood of transforming instructional practices.

In the context of the digital age and remote education, integrating interactive techniques—such as hands-on activities using digital tools and simulation applications—is considered essential for the sustainability of professional development (Trust & Whalen, 2020; König et al., 2022). These techniques promote engagement and embodied learning, particularly when training is designed with clear objectives and focused feedback.

Overall, the connection between theoretical foundations and practical applications is recognized as a key element of continuous professional learning for teachers, supporting not only their cognitive but also their metacognitive development (Opfer & Pedder, 2011). A professional development model that encourages active participation, collaboration, and responsiveness to individual needs significantly contributes to the cultivation of pedagogical leadership and the establishment of innovative practices within the school community (Darling-Hammond et al., 2020; Slavit et al., 2021).

## 5. Conclusion

The findings of the present study highlight the necessity for a multidimensional, flexible, and evidence-based approach to professional development for modern-day educators. In a constantly evolving educational landscape, teachers' professional growth must respond to the challenges posed by technological advancements, student population diversity, and the increasing emotional demands of teaching.

Primarily, the urgent need to enhance digital and artificial intelligence literacy emerges, with teachers expressing strong interest in training on tools such as artificial intelligence, virtual/augmented reality, and adaptive learning systems. Participants perceive these technologies not as abstract concepts, but as tools for improving teaching practice and enriching the learning experience—aligning with the findings of Casal Otero et al. (2023) and Brandão et al. (2024).

Simultaneously, there is a strong interest in cultivating social-emotional skills, strengthening emotional resilience, and implementing classroom management strategies, all of which are directly associated with preventing teacher burnout and enhancing educator self-efficacy (Duan et al., 2024; Collie, 2023). These factors affect not only teachers' well-being but also the overall quality of the classroom climate.

Particular emphasis is also placed on the need for specialized deepening of pedagogical content knowledge, which has been shown to be critical for developing targeted and effective interventions, improving both teaching quality and student achievement (Fukaya et al., 2024). Complementing this, differentiated instruction and individualized support for learning difficulties are recognized as key pillars of inclusive education, especially in multicultural and heterogeneous learning environments (Bi et al., 2024).

Regarding the duration of professional development programs, participants favor medium-length training (30–80 hours), which is seen as optimal for offering meaningful content without overly burdening educators' demanding schedules (Sims & Fletcher-

Wood, 2021). Nonetheless, short-term interventions remain important for updating knowledge and responding to emerging needs within the school context (Hogan et al., 2025).

In terms of training scheduling, there is confirmation of the need for flexibility and collaborative planning with teachers, so that their rhythms and the constraints of everyday school life are taken into account. The international literature supports deciding between "in-service" or "out-of-hours" training through dialogue and consensus, rather than imposition (Unal & Unal, 2023).

Finally, participants expressed a clear preference for blended learning models that combine online and face-to-face modalities, offering both flexibility and enhanced opportunities for interaction. Teachers also emphasized the importance of collaboration among universities, governmental bodies, and schools, to ensure scientific validity, institutional support, and practical applicability of professional development. This approach aligns with international findings identifying networked partnerships as a best practice for sustainable teacher development (Stavermann, 2024).

Overall, the study demonstrates that teacher professional development must not be fragmented or one-dimensional. Instead, it requires a systemic, continuous, and participatory approach, tailored to the real needs and aspirations of educators themselves

## **6. Recommendations**

Based on the above findings and contemporary theoretical and empirical insights, a holistic professional development program is proposed, structured around five distinct yet interrelated pillars. The proposed framework aspires to meet the multifaceted needs of educators by offering a flexible, personalized, and pedagogically sound mechanism for professional growth.

The first pillar focuses on the systematic integration of artificial intelligence and modern digital technologies into teaching practice through structured training modules. The second centers on social-emotional learning and classroom management. The third involves in-depth cycles of pedagogical content knowledge tailored to each subject area, while the fourth pillar enhances the ability to design and implement differentiated instruction. The fifth pillar addresses the development of transversal skills, such as creativity, critical thinking, and digital literacy.

The training program is proposed in a blended format, ranging from 30 to 80 hours, comprising in-person core sessions, live online workshops, and asynchronous micro-modules. A central component of the program is the creation of thematic Communities of Practice supported by mentoring (Mulaimović et al., 2024). Regarding scheduling, a flexible and collaborative planning process with participants is recommended to avoid professional development fatigue (Uhlig, 2023).

The program's multi-level governance is proposed to be founded on co-design by multiple institutional actors, in collaboration with international organizations such as Erasmus+. Additionally, tiered certification and continuous impact evaluation are

identified as key pillars of the proposed strategy, aligning with the standards of UNESCO (2024) and the OECD (2024).

### **Conflict of Interest Statement**

The authors declare no conflicts of interest.

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