



FOOT PRINTTS:
Focus on Teacher Training
Practical Guidelines for
In-Service Teacher Trainers
Empirical research report

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1. Introduction

This report is part of the Erasmus+ project "Focus on Teacher Training – Practical Guidelines for In-Service Teacher Trainers" (FOOTT PRINTTS). The overall objective of the project is to provide practical tools to support high-quality professional development for teachers in the European Member States.

The professional development of teachers is a central component of quality assurance in the education system. In the professionalization of teachers, building bridges between theory and practice is essential for high-quality continuing education. In view of the changing demands on teachers – driven by technological progress and social change – it is crucial to develop effective training formats.

The importance of continuing professional development (CPD) for teachers is undisputed among experts. Initial training at universities cannot provide all the necessary skills for the lifelong practice of teachers. The demands on this professional group are constantly changing and pose major challenges for teachers. Studies show that professional experience in this sector has only a minor influence on the professional knowledge and competence of teachers. It does not have the decisive influence on the quality of teaching and on the learning growth of pupils (Kini & Podolsky, 2016; Papay & Kraft, 2015; Burroughs et al., 2019). Therefore, it is all the more important to further develop the competencies of teachers with targeted training measures (Darling-Hammond, Hyler & Gardner, 2017). For this reason, the research project "FOOTT PRINTTS" (Focus on Teacher Training: Practical Guidelines for In-Service Teacher Trainers) was submitted and approved within the framework of Erasmus+. This research project is co-funded by the European Union. Public organizations and private institutions from seven partner countries of the European Union that specialize in the continuous professional development of teachers are participating in this research project. These are the Arnsberg District Government (North Rhine-Westphalia, Germany), the University College of Teacher Education Vienna (Austria), 21Knowledge (Portugal), the University of Rzeszów (Poland), European Institute for Education and Social Policy - EIESP (France), Educom+ (Greece) and Børn og Unge Aalborg (Denmark). The common research goal is to develop a holistic quality approach for the national and international continuing professional

education of teachers (CPD). The focus is on the trainers at training events for teachers and the organizational structure of the training in order to combine research-based results and needs for implementation in practice in the training of teachers.

The present report includes both the empirical analysis of the quantitatively collected and the qualitatively collected data.

2. Research Design

The initial phase of the FOOTT PRINTTS project involved an in-depth literature review coordinated by the European Institute for Education and Social Policy (EIESP) in Paris. The results were reviewed and discussed together in online meetings and an on-site workshop in Paris. These discussions not only provided summary insights but also fed into the development of an online questionnaire for subsequent quantitative data collection. In the subsequent phase, the basic principles and composition of the online survey were defined in cooperation with the other participating nations during the face-to-face meeting in Athens led by the Austrian research team from the University College of Teacher Education Vienna.

The methodology used in the FOOTT PRINTTS project is based on a sequential mixed-methods approach (Creswell, & Plano Clark, 2018). Both the quantitative and the subsequent qualitative data collection are intended to provide a comprehensive insight into criteria for effective continuous professional development for teachers in the six regions examined by the EEA (European Education Area). By drawing on knowledge from different European regions, a common approach can be developed for the perception of the quality of in-service training for teachers, taking into account the geographical, cultural, political and institutional differences of the respective education systems. Policy developments addressing alternative pathways for teachers to address the shortage of teachers in Europe (European Education and Culture Executive Agency, Eurydice, 2023) are expected to increase the heterogeneity of teachers' experiences, training, competencies and skills, creating new challenges for the effective delivery of in-service training for teachers. In the empirical analysis, special attention is therefore paid to dealing with heterogeneity in continuing education (Rudloff & Efstathiades, 2024).

As the quality of CPD is very much dependent on the interaction between different levels, such as the interaction between students, teachers and the institutional learning environment, this should also be taken into account in the development of questionnaires for quantitative data collection (ESG, 2015). For this reason, stakeholders from different levels were involved in the survey in order to be able to take into account their views from different perspectives. After all, it is quite possible that the perception of quality in the continuous professional development of teachers is also perceived differently by people at different levels.

The online survey designed for quantitative data collection, as well as the analysis of the collected data, includes the following levels: micro, meso, and macro. At the micro level, the experiences and quality perceptions of teachers (participants in continuous professional development events) were surveyed. At the meso level, the views of trainers and moderators of continuous professional development events for teachers were recorded, and at the macro level, the perceptions of quality and the interests of public and private training institutions for teachers, political actors and school principals were surveyed. The topics covered in the FOOTT PRINTTS survey are training format, delivery of training, motivation, cooperation, participants, trainers and politics (Table 1).

Table 1: Table Source: Topics of the FOOTT PRINTTS survey (Efstathiades, Gesierich, Rudloff & Kapsalis, 2025, p. 194)

Training Format	Form of CPD delivery Time, Duration, Location, Digital and face-to-face training activities
CPD Delivery	Training elements: e.g. instruction, modeling or analyzing materials Theory to practice ratio
Motivation	Extrinsic: career perspectives, policy, contracts, work hours Intrinsic: connecting with other professional, interests, prior knowledge & competence development
Collaboration	Types of collaboration in digital and face-to-face settings
Participants	Level of involvement Interests and objectives of training Needs
Trainers	Qualifications Professional experience Didactic and communication skills Needs
Policy	Options for selecting training, Contract and career perspectives, Resources and planning Content needs

A major challenge in the development of the questionnaires (micro, meso and macro level) for the online survey for quantitative data collection was to identify and take into account the country-specific differences in both content and language, in order to finally generate identical questionnaires for the individual countries. Therefore, numerous online meetings were held, as well as an onsite meeting in Athens.

A pretest was carried out in all partner countries from May to June 2024. The findings from this were incorporated into the revision of the questionnaires.

The sample size agreed for the research project for the countries of Germany, Austria, Poland and Denmark is 400 training participants at the micro level, 150 trainers or moderators at the meso level and 50 decision-makers for the continuous professional development of teachers at the macro level. In Portugal and Greece, the sample size is 310 teachers at the micro level, 70 teacher trainers or moderators at the meso level, and 20 decision-makers at the macro level.

In order to keep the time required to complete the questionnaire as low as possible, care was taken to formulate the questions as concisely and precisely as possible and to keep their number as low as possible. Different forms of questions such as ranking, randomization of answer items and questions with a 5-point Likert scale were deliberately used, as the variety was intended to maintain the participants' interest in the survey on the one hand and attention and concentration until the end of the questionnaire on the other. These measures were also intended to prevent respondents from randomly ticking off answer options.

The online survey was open from October 2024 to February 2025. In order to generate participants for the questionnaire for the different survey levels (micro, meso, macro), teachers were approached directly at training events, heads of educational institutions (e.g. primary and secondary schools) and decision-makers in the field of continuing education were contacted, and other networks were used.

After the online survey was closed for participation, the results of the quantitative survey with SPSS were evaluated, analysed and compared with the literature. The results of the quantitative research can be found in Chapter 3.

Following the evaluation of the quantitative results, an interview guideline for the qualitative research phase was developed in order to provide deeper insights into the quantitatively collected data. In order to take into account the cultural and social diversity of the respective education systems and practices in the European Higher Education Area, qualitative interviews were conducted in each partner country involved in the FOOT PRINTTS research project from June 2025. The semi-standardized expert interviews were evaluated by means of qualitative content analysis according to Mayring (2008). The presentation of the results of the qualitative research can be found in Chapter 4. Chapter 5 provides a summary of all the results of the empirical research within the framework of the Erasmus+ research project FOOT PRINTTS.

3. Quantitative research

3.1 Methodology of Data Analysis of Quantitative Research

In the phase of empirical analysis of the quantitatively collected data, a sequential mixed-methods analysis was performed (Creswell, & Plano Clark, 2018). This chapter presents the results of quantitative research.

This report presents the results of Phase 1: Quantitative analysis of preferred training formats for the competence development of teachers. The aim of the quantitative study was to analyse the characteristics and preferences of continuing education formats that promote the competence development of teachers. Both the content and formats of the training courses as well as their organizational framework conditions were examined. The findings are intended to help align future training even more closely with the needs of the target group and to support the professional development of teachers in the long term.

The involvement of stakeholders from different levels of the system is essential to gain comprehensive insights into how quality can be effectively addressed – through the exchange of knowledge and mutual learning from the perspective of quality in the continuing professional development of teachers. The analysis includes the following dimensions:

- 1) Micro level: Experiences and perceptions of teachers with regard to quality,
- 2) Meso-level: Practices of trainers and moderators and
- 3) Macro level: the perceptions and interests of public and private continuous professional development institutions for teachers, policymakers and school principals (i.e. decision-makers).

This report is structured as follows: The research method, sample and analyses conducted are described in section 2, the descriptive results of the survey are stated in section 3. This is followed by the main analyses of this quantitative analysis, separated in an extraction of relevant factors and an impact analysis of the most relevant factors on training satisfaction (section 4). In section 5, the results are summarized and a conclusion is drawn.

3.2 Description of the sample

The questionnaire was distributed via link or QR code to a broad target group, which consisted of teachers as participants in training courses (micro level), trainers or moderators (meso level) and decision-makers (macro level). Overall, the data collection achieved a broad international spread, yet participation rates varied substantially between countries.

In total, 7,875 individuals were contacted across all levels of analysis, of which 5,171 questionnaires were completed in full. This leads to a sampling error (se) of 1.79% in total. On average, respondents took about 17 minutes to complete the questionnaire (median). Figure 1 shows the contributions of each country to the total sample. The largest shares of respondents come from Germany (n = 1,470, 28%, se = 3.35%) and Austria (n = 1,324, 26%, se = 3.48%), each representing roughly one quarter of the total sample. Poland (n = 668, 13 %, se = 4.99%), Denmark (n = 649, 12%, se = 5.04%), and Portugal (n = 599, 12%, se = 5.26%) account for medium-sized shares, while Greece contributes about one in ten participants (n = 461, 9%, se = 6.00%).

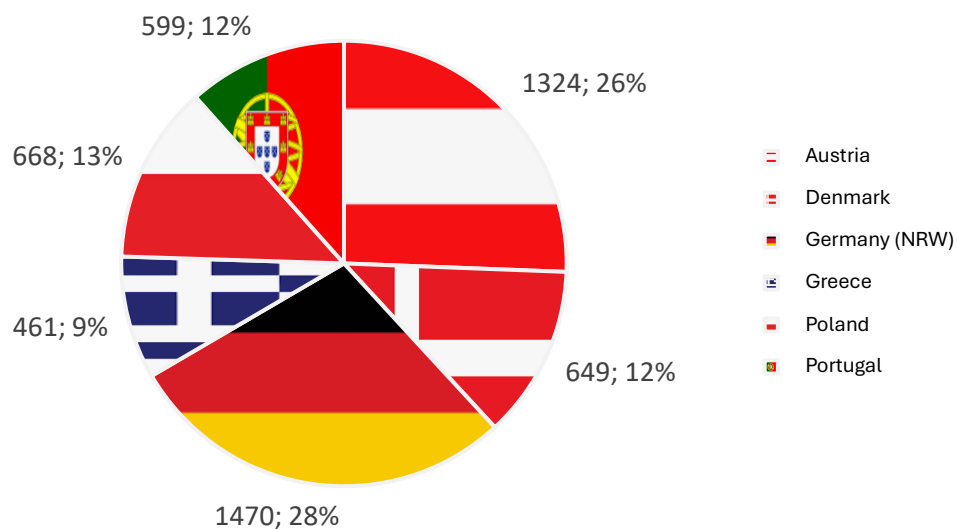


Figure 1: Absolute and relative distribution among the completed questionnaires by country

The participants’ average age was 46 years (SD = 11; range: 18–89 years), and their average professional experience amounted to 19 years (SD = 11; maximum: 77 years).

3.2.1 Sample description micro level

At the **micro level**, the sample of teachers is predominantly female, with nearly three quarters of respondents identifying as women (75%) and about one in four as men (25%). The average age across all countries is 45.2 years (SD = 10.5), indicating a mature and professionally experienced cohort. Participants reported an average of 18.5 years of job experience (SD = 11.1), suggesting that most have been active in the education sector for a considerable period. Country-level differences are notable: Portuguese teachers form the oldest subgroup on average (M = 53.2 years), followed by those from Greece (M = 47.5 years), while respondents from Austria (M = 44.6 years), Poland (M = 44.5 years), and Denmark (M = 43.9 years) are markedly younger. A similar pattern is reflected in professional experience, with Portuguese teachers reporting by far the longest careers (M = 28.9 years) and Austrian teachers the shortest (M = 15.4 years). Female participation rates are particularly high in Austria (84%) and Portugal (78%), while Denmark (69% female) and Greece (67% female) show a more balanced gender distribution (Table 2).

Table 2: Sociodemographic attributes of the participants at the micro level

	AT	GER	DK	GRE	POL	POR	Total
Gender							
male	14%	27%	30%	33%	27%	22%	24%
female	84%	71%	69%	67%	72%	78%	75%
inter, diverse	0%	1%	1%	0%	0%	0%	0%
n.a.	1%	2%	0%	0%	1%	1%	1%
Education							
up to ISCED Level 4	15%	0%	7%	1%	13%	1%	7%
ISCED Level 5	22%	0%	0%	0%	0%	1%	7%
ISCED Level 6	33%	3%	87%	47%	16%	66%	34%
ISCED Level 7	27%	94%	6%	49%	67%	27%	50%
ISCED Level 8	2%	3%	0%	3%	5%	6%	3%
Age¹	44.64	45.67	43.90	47.51	44.52	53.25	45.24
	(11.06)	(9.71)	(10.21)	(8.22)	(10.95)	(7.16)	(10.54)
Experience¹	15.44	17.73	16.07	19.74	18.71	28.96	18.50
	(11.65)	(9.60)	(9.73)	(8.87)	(12.12)	(11.93)	(11.14)
n	1017	978	446	338	416	348	3543

3.2.2 Sample description meso level

Table 3 summarizes the sample of trainers at the **meso level**, which is also predominantly female, with about seven in ten respondents identifying as women (72%) and around one in four as men (27%). The average age of this group is 50.3 years (SD = 8.8), making it generally older than the teacher sample. Participants reported an average of 23.6 years of professional experience (SD = 10.1), reflecting substantial expertise and long-term engagement in education. Trainers from Portugal and Greece are the oldest (M = 53.8 and 56.9 years, respectively), whereas those from Denmark form the youngest subgroup (M = 47.1 years). A similar trend is evident in job experience, with Portugal and Greece again showing the longest tenures (M = 29.7 and 27.7 years), and Denmark the shortest (M = 17.9 years). Female participation is especially high in Poland (84%) and Denmark (81%), while gender distribution is more balanced in Portugal (58% female) and Germany (67% female).

Table 3: Sociodemographic attributes of the participants at the meso level

	AT	GER	DK	GRE	POL	POR	Total
Gender							
male	24%	32%	19%	30%	14%	41%	27%
female	75%	67%	81%	70%	84%	58%	72%
inter, diverse	1%	1%	0%	0%	2%	1%	1%
n.a.	0%	0%	0%	0%	0%	0%	0%
Education							
up to ISCED Level 4	3%	0%	0%	1%	1%	1%	1%
ISCED Level 5	11%	0%	0%	0%	1%	1%	2%
ISCED Level 6	15%	0%	28%	0%	1%	34%	14%
ISCED Level 7	56%	95%	71%	13%	49%	49%	59%
ISCED Level 8	15%	5%	1%	86%	49%	15%	24%
Age¹	48.06	49.11	47.14	55.95	49.82	53.79	50.27
	(9.97)	(8.22)	(8.78)	(4.60)	(8.42)	(7.34)	(8.77)
Experience¹	21.59	21.28	17.92	27.73	24.05	29.75	23.60
	(11.04)	(8.19)	(11.45)	(4.70)	(10.24)	(9.10)	(10.10)
n	159	194	145	102	163	181	944

3.2.3 Sample description macro level

At the **macro level**, decision-makers are likewise predominantly female, with seven out of ten identifying as women (71%) and roughly one in four as men (28%). The average age of this group is 50.3 years (SD = 8.8), indicating that the decision-making level in professional development is generally composed of older and highly experienced professionals. Respondents reported an average of 23.6 years of professional experience (SD = 10.1), confirming the seniority and long-term involvement of this group in the education sector. Country-level comparisons show a relatively consistent age structure, with the oldest participants in Greece (M = 55.59 years) and Portugal (M = 53.8 years), while those from Denmark are slightly younger (M = 47.1 years). In terms of professional experience, Portuguese decision-makers report the longest careers (M = 29.8 years), whereas their Danish counterparts have somewhat shorter histories (M = 17.9 years). Gender distributions again vary across countries, with particularly high female shares in Austria (79%) and Poland (84%), while Denmark stands out for its comparatively larger proportion of men (60%). The sample statistics are shown in table 4.

Table 4: Sociodemographic attributes of the participants at the macro level

	AT	GER	DK	GRE	POL	POR	Total
Gender							
male	21%	28%	60%	45%	16%	27%	28%
female	79%	71%	40%	55%	84%	73%	71%
inter, diverse	0%	0%	0%	0%	0%	0%	0%
n.a.	0%	0%	0%	0%	0%	0%	0%
Education							
up to ISCED Level 4	26%	0%	2%	0%	5%	1%	7%
ISCED Level 5	16%	1%	0%	0%	0%	0%	4%
ISCED Level 6	20%	1%	78%	0%	1%	61%	18%
ISCED Level 7	34%	94%	19%	60%	58%	28%	62%
ISCED Level 8	5%	4%	2%	40%	36%	9%	10%
Age¹	48.06	49.11	47.14	55.95	49.82	53.79	50.27
	(9.97)	(8.22)	(8.78)	(4.60)	(8.42)	(7.34)	(8.77)
Experience¹	21.59	21.28	17.92	27.73	24.05	29.75	23.60
	(11.04)	(8.19)	(11.45)	(4.70)	(10.24)	(9.10)	(10.10)
n	148	297	58	20	86	67	676

3.3 Data analysis

The analysis comprised descriptive statistics and explorative data analysis methods. Descriptive statistics predominantly include relative frequencies. The explorative data analysis was done using exploratory factor analysis to identify key characteristics and preferences. Exploratory factor analysis is a central method of multivariate statistics to reduce the large number of variables collected in the questionnaire to a smaller set of superior factors. According to the basic assumption of factor analysis, the expression of a manifest variable can be additively decomposed into a weighted sum of the factors:

$$x_{im} = \sum_{j=1}^f \xi_{ij} \lambda_{mj} + \varepsilon_{mi}$$

where x_{im} represents the observed response of respondent i to item m , ξ_{ij} denotes the score of respondent i on factor j , λ_{mj} is the factor loading of item m on latent factor j , i.e., the strength of the association between the item and the factor, f represents the number of factors underlying a given response x_{im} , and ε_{mi} denotes an error term (Moosbrugger & Hartig, 2003¹).

In a first step, principal components were extracted to achieve efficient data reduction. The quality of the factor analysis was assessed using the Kaiser-Meyer-Olkin (KMO) criterion as well as Bartlett's test of sphericity. Furthermore, the extracted components were rotated using the Varimax procedure to facilitate interpretation of the factors. The final factors were interpreted on the basis of items with loadings $|\lambda_{mj}| > 0.4$.

In a second step, the identified factors were aggregated from the respective associated items. Factor construction was performed by computing the mean values of the items belonging to each factor. The internal consistency of the constructed factors was measured using Cronbach's α . Subsequently, the factors were analysed with respect to their means and measures of dispersion.

The results were evaluated across different levels (micro, meso, and macro) to account for group-specific differences. In addition, correlations and variations were analysed

¹ Moosbrugger, H.; Hartig, J. (2002): Factor analysis in personality research: Some artefacts and their consequences for psychological assessment. *Psychologische Beiträge* 44, S. 136-158.

according to sociodemographic characteristics such as age, gender, professional experience, and role.

A subsequent exploratory analysis was conducted using ordinary least squares regression to determine the most important influencing factors on training satisfaction. These results provide the basis for building a model for high-quality CPD for in-service teacher trainers.

3.4 Descriptive results

Face-to-face training is clearly viewed as the most effective form of professional development. Nearly five in six participants assess this format positively, with 34% rating it as “rather” and 51% as “totally” supportive of competence development. Blended learning also receives very favourable evaluations, with two thirds of respondents rating it positively (46% “rather,” 20% “totally”). In contrast, asynchronous online formats are viewed much more critically: more than one quarter of the total sample express negative views (8% “not at all,” 19% “rather not”), and only 45% rate them as at least “rather” supportive (Figure 2).

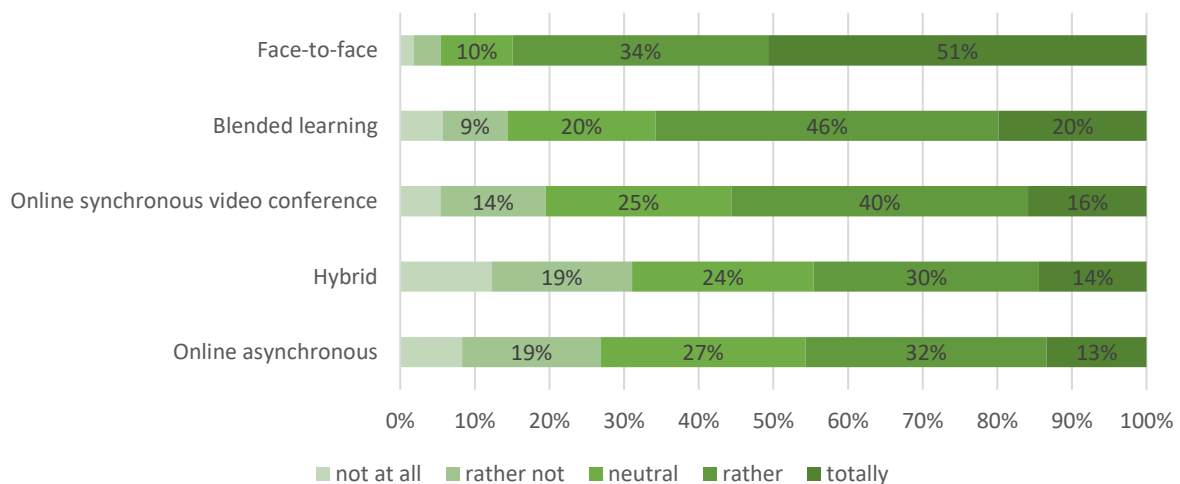


Figure 2: The following training format supports the development of teachers’ professional competencies in training courses

Across the three levels, clear differences emerge in how training formats are perceived to support competence development. Micro-level participants (teachers) and meso-level respondents (trainers) both show a strong preference for face-to-face and blended learning, with trainers expressing the most pronounced enthusiasm – 63% rate in-person formats as “totally supportive.” Macro-level decision-makers are comparatively more open to online and hybrid approaches, evaluating asynchronous and synchronous digital formats slightly more positively than the other groups. Nonetheless, across all levels, the hierarchy of perceived effectiveness remains consistent: face-to-face and blended learning are rated highest, while asynchronous online formats are valued least, particularly among trainers. This pattern highlights that those directly involved in teaching tend to prioritize interpersonal, practice-oriented settings, whereas those in strategic roles show greater acceptance of technology-mediated formats.

Training sessions distributed over several days throughout the school year are consistently viewed as the most supportive format for competence development, although the strength of this preference differs across groups. Meso-level respondents (trainers) express the strongest endorsement, with nearly four in five rating this option positively (81%) – considerably higher than among micro-level participants (teachers, 69%) and macro-level decision-makers (73%). Trainers also show greater approval for multi-day and full-day sessions, indicating that they value extended and immersive learning opportunities. In contrast, micro-level participants are somewhat more open to shorter formats, such as sessions lasting up to two hours, likely reflecting practical constraints and limited release time from teaching. Macro-level respondents align more closely with trainers in their preference for longer sessions but display slightly greater openness toward shorter online formats (Figure 3).

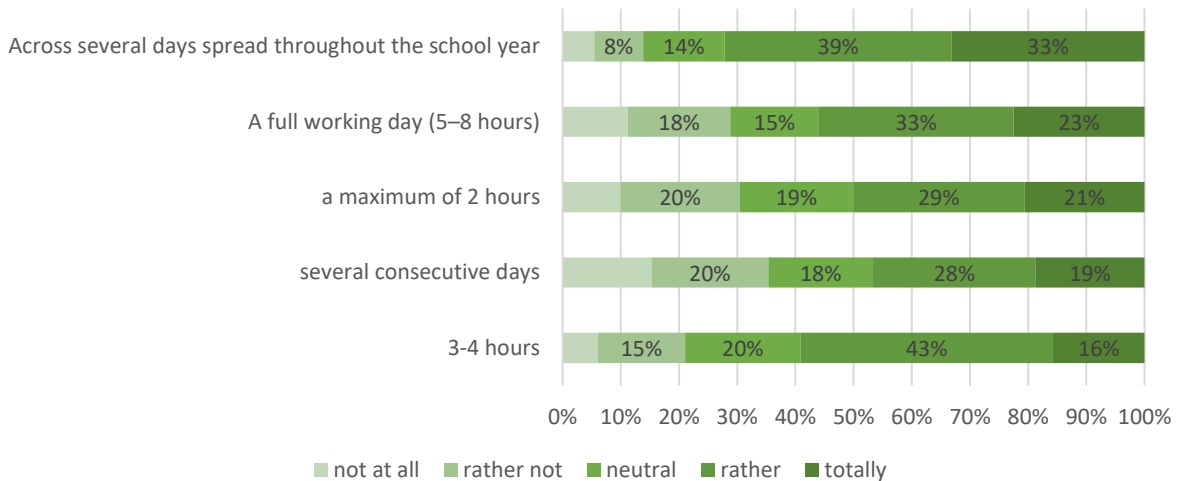


Figure 3: The following training duration supports the development of teachers’ professional competencies in training courses

Respondents generally regard practice-oriented and institutionally connected venues as most effective for competence development. Meso-level participants (trainers) show the strongest appreciation for professional or educational environments, with particularly high approval for schools and kindergartens (73%) and higher education institutions (71%). Macro-level decision-makers share this preference (68% for schools and kindergartens, 60% for universities) but also express comparatively strong approval for external venues (66%) and hotels with accommodation (68%), which may reflect an emphasis on collaboration and networking opportunities. Micro-level participants (teachers) are somewhat less enthusiastic overall and display a more balanced evaluation across locations, giving positive ratings to schools and kindergartens (63%), universities (63%), and online formats (54%). Across all groups, online and location-independent settings receive the least endorsement (49–54%), suggesting that personal presence and contextual learning environments are widely considered more conducive to competence development (Figure 4).

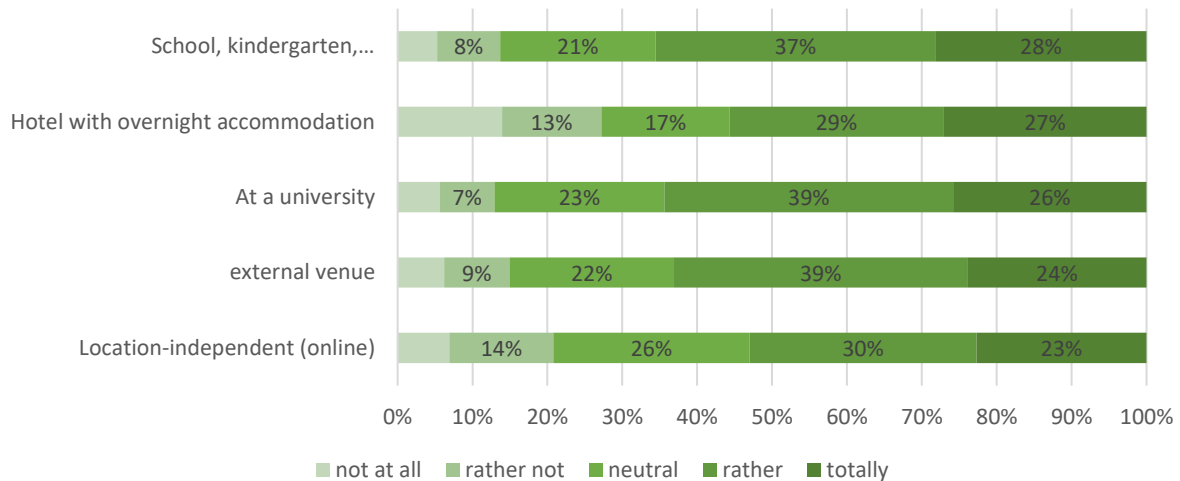


Figure 4: The following training venue supports the development of teachers' professional competencies in training courses

Participants clearly prefer professional development that takes place during regular working hours rather than in leisure time or holidays. The strongest support appears for training held during work hours or directly before or after teaching, with up to 67% of the total sample rating these options positively. This preference is particularly pronounced among meso-level participants (trainers, 70%) and micro-level teachers (67%), while macro-level decision-makers express slightly lower approval (62%), possibly due to substitution teaching needs. Activities scheduled in the afternoon or morning are also well received, with positive ratings of 55% and 63% across groups. In contrast, formats organized in the evening or on weekends are viewed very negatively by all groups, with more than two thirds rejecting weekend sessions (73% at the micro level, 57% at the meso level, and 65% at the macro level). Training during school holidays is similarly unpopular – especially among teachers (69% negative) – though somewhat more acceptable to decision-makers (47% negative). Asynchronous online formats receive moderate approval across all levels (40%), suggesting that flexibility is appreciated but does not outweigh the preference for learning integrated into regular working hours (Figure 5).

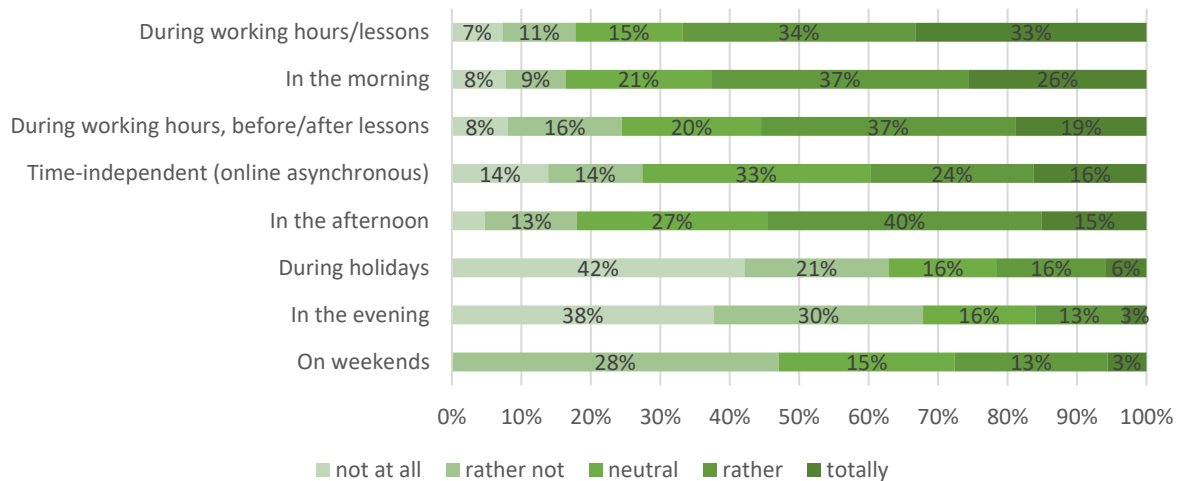


Figure 5: The following training timing supports the development of teachers’ professional competencies in training courses

Teachers consider a variety of professional development activities supportive of competence development (Figure 6). One third view reading professional literature as beneficial (34% “rather”, 11% “totally”), and a similar share recognizes self-directed research as valuable (32% “rather”, 14% “totally”). Short, practice-oriented workshops are rated as most effective, with nearly half indicating them as “rather effective” (45%) and four in ten as “totally effective” (41%). Seminars and mentoring are also highly appreciated, with half of respondents finding seminars “rather effective” (50%) and almost one third “totally effective” (28%), while mentoring is seen as “rather effective” by 44% and “totally effective” by 33%. Activities such as asynchronous online training are perceived as less impactful, with four in ten expressing neutrality (39%) and only a small minority rating them as “totally effective” (9%). Microlearning, professional networking, excursions, targeted coaching, and classroom observations are generally regarded positively, with 40–46% rating them “rather effective” and roughly one quarter to one third “totally effective.” Sharing teaching and learning materials is also well regarded (42% “rather”, 28% “totally”).

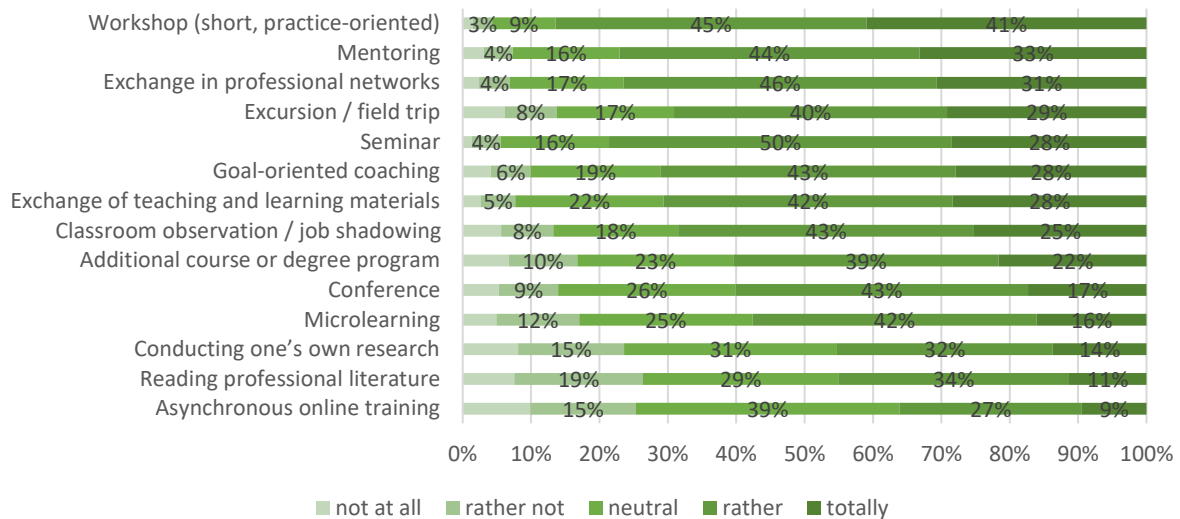


Figure 6: The following professional development activity supports the enhancement of teachers' competencies

Comparing the three target groups, teachers (micro level) generally rate short workshops, seminars, and mentoring slightly higher than trainers (meso level) and decision-makers (macro level), with four in ten micro-level participants rating workshops “totally effective” (42%), compared with each 39% at the meso and the macro level. Trainers and decision-makers show stronger support for structured professional development such as additional courses, conferences, and coaching, with the macro group giving the highest ratings for seminars and coaching (30% and 37% “totally effective”). Asynchronous online training is consistently rated lower across all groups but somewhat more positively by the meso level. Networking and collaborative activities are valued across all groups, yet decision-makers emphasize seminars, coaching, and mentoring more strongly than teachers and trainers. The most notable difference is that micro-level respondents prioritize hands-on workshops, whereas macro-level respondents highlight seminars, mentoring, and coaching as central to competence development.

Good practice examples are considered particularly important for supporting competence development during training. They are the most valued element, with one fifth of respondents ranking them first (21%) and half placing them among the top three (51%). Familiarization with diverse teaching methods is also highly appreciated, with one in eight ranking it first (12%) and four in ten including it among the top three (40%).

Subject-matter knowledge, structured content and objectives organization, and adaptation to participants’ prior knowledge are moderately valued, with around 10-12% ranking these elements first and more than half assigning them lower ranks. Classroom management strategies, teaching materials, and differentiation options are viewed as somewhat less supportive, while practical applicability for individual schools, self-study learning phases, and lesson planning are considered least important. Fewer than 6% rank these latter elements first, and large majorities (65-80%) place them lower. Overall, teachers prioritize concrete examples and exposure to varied methods over general resources or structural components when aiming to enhance professional competencies (Figure 7).

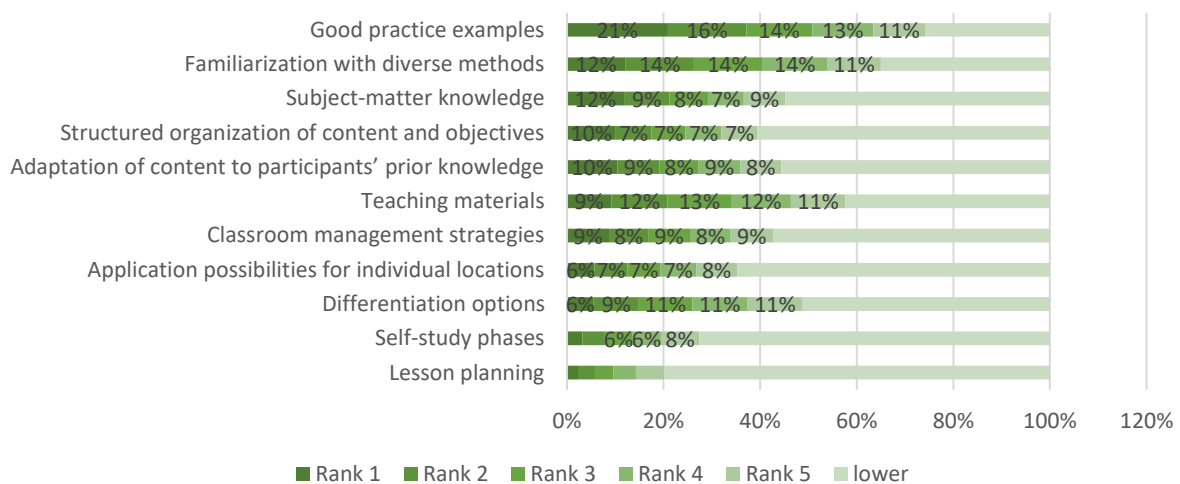


Figure 7: The following elements support the development of teachers’ competencies in professional development (ranking)

Content informed by participants themselves is considered most supportive for competence development, with half rating it “rather supportive” (50%) and more than one quarter “totally supportive” (27%). Leadership at the school level is also seen as influential (41% “rather”, 7% “totally”). Content developed at the employer level, such as by educational directorates or federal authorities, is viewed as moderately relevant (26% “rather”, 4% “totally”), while content from ministries or the European level is generally rated low in impact (19–24% “not at all supportive,” each 4% “totally supportive”).

Teachers and trainers show similar patterns, emphasizing participant input and school leadership, whereas decision-makers give slightly lower ratings for school-level leadership and more neutral ratings for employer or ministry input. Overall, teachers and trainers clearly favour context-specific and practice-based content over top-down, policy-driven approaches (Figure 8).

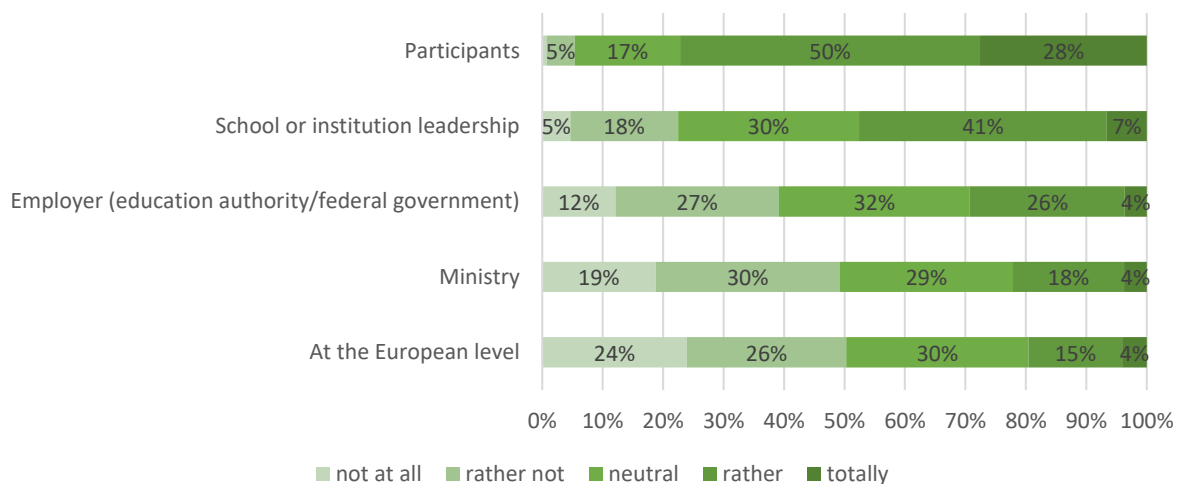


Figure 8: The development of teachers' competencies is supported when content is determined by...

Teachers value the ability to participate in decisions about professional development offerings. Four in ten report being able to influence the selection of offerings, and one quarter feel they can do so totally. A similar share wish for greater involvement (43% “rather,” 30% “totally”). Aligning professional development with school goals is viewed as supportive (48% “rather,” 25% “totally”). Freedom of choice is rated particularly highly – 42% “rather” and 43% “totally” supportive. Teachers emphasize autonomy most strongly, with nearly half rating free choice as “totally supportive” (48%), while trainers and decision-makers show slightly lower shares (33% and 32%). All groups value alignment with school goals, though trainers rate this slightly higher (54%). Overall, teachers focus on individual choice, whereas trainers and decision-makers favour a balance between autonomy and institutional coherence (Figure 9).

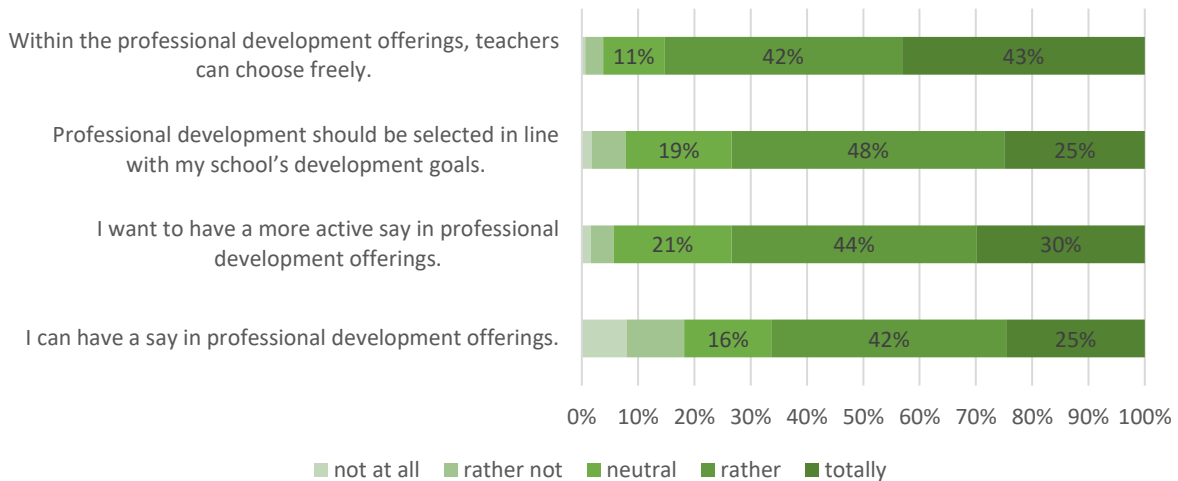


Figure 9: I help determine the content of the professional development in the following way.

Teachers find practical experimentation and peer learning most effective in collaborative online settings. One fifth rank practical application first (21%) and over half include it in their top three (55%). Peer learning follows closely (18% first, 59% top three). Lectures are moderately appreciated (24% first), while informal exchanges and group discussions receive slightly lower top-rank ratings (25–27%). Greeting rounds are viewed as least supportive (6% first, 65% lower ranks). In face-to-face training, practical experimentation again ranks highest (28% first, 67% top three), followed by peer learning (17% first, 60% top three). Lectures and group discussions are moderately valued, while online tools are rated least relevant (2% first, 68% lower ranks). Across both modes, active, hands-on, and peer-oriented activities are consistently prioritized over passive or pure social elements. Feedback and post-training support are seen as essential. One third of respondents indicate that follow-up support after training is “rather” needed (33%), and one fifth see it as “totally” necessary (21%). Anonymous evaluations are valued by 61% (41% “rather,” 20% “totally”), and feedback discussions in plenary sessions by 69% (46% “rather,” 23% “totally”). These results underline the importance of structured feedback and reflective mechanisms in ensuring training effectiveness (Figure 10).

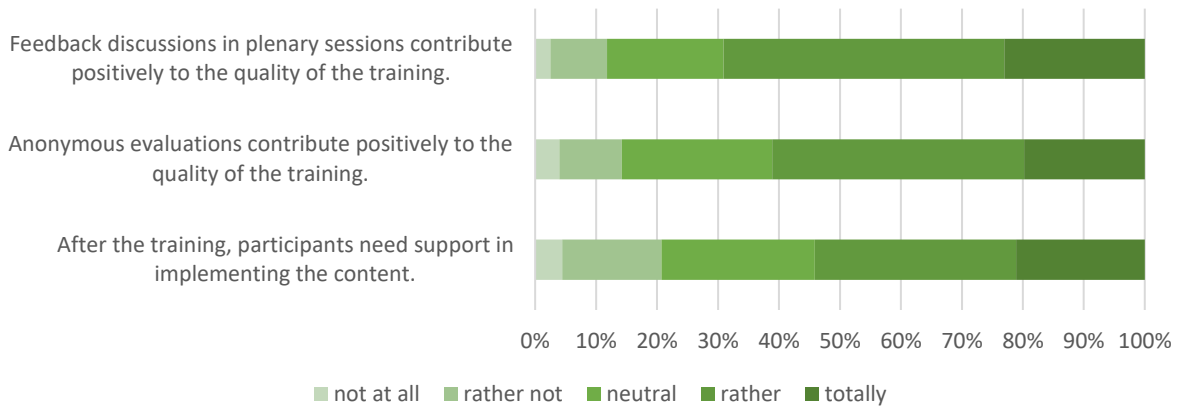


Figure 10: To what extent do the following statements regarding feedback correspond to your experience or opinion?

Overall satisfaction with professional development is high. More than half of respondents are “rather satisfied” (52%) and 13% “totally satisfied.” The content of professional development is widely seen as appropriate (47% “rather,” 24% “totally”), and its practical impact on teaching is rated positively (48% “rather improved,” 31% “totally improved”). These findings suggest strong overall satisfaction and perceived relevance (Figure 11).

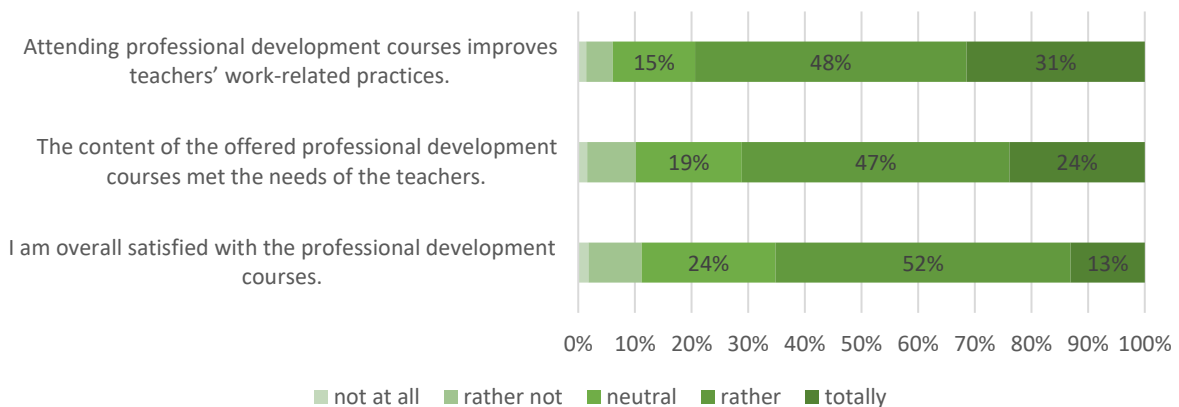


Figure 11: To what extent do the following statements regarding satisfaction correspond to your experience or opinion?

Motivation is primarily driven by practical relevance and meaning. Nearly three quarters of teachers are “totally motivated” when training helps in daily practice (74%) or conveys meaningful learning (77%). Exchange with peers is also highly motivating (51% “totally,”

38% “rather”). Extrinsic motivators, e.g., career advancement (39%) and monetary benefits (29%), play a smaller role. Certificates and ECTS points are least motivating (23–29% “totally”). Overall, intrinsic and practice-oriented factors clearly outweigh formal or financial incentives (Figure 12).

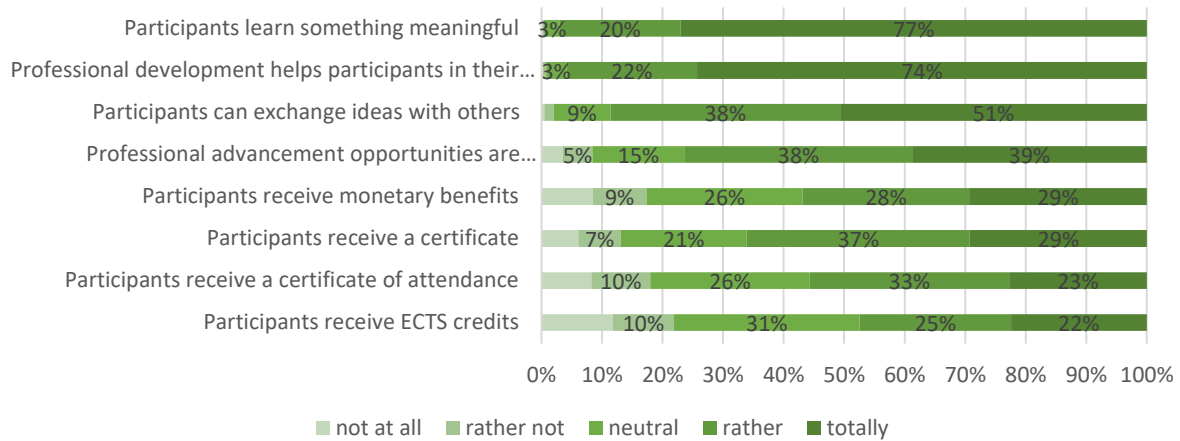


Figure 12: I find it motivating when...

3.4.1 Exploratory Factor Analysis

First, the suitability of the surveyed items for factor analysis was examined. With a KMO measure of 0.769, the correlation patterns appear sufficiently compact, indicating that the sample is methodologically appropriate for factor extraction and should yield clear and reliable factors. Bartlett’s test of sphericity was also highly significant ($\chi^2(4,371) = 18,595, p < 0.001$), indicating that correlations among the items are indeed present. Both the KMO measure and Bartlett’s test confirm that factor analysis is an appropriate tool for data analysis.

Table 5: 29-factor-solution including eigenvalues and cumulative variance explanation

Component	Eigenvalue	Cumulative % of variance	Rotated sum of squared loadings
1	10.51	11.18	4.60
2	4.37	15.84	4.18
3	3.57	19.64	3.43
4	2.73	22.55	2.93
5	2.63	25.35	2.86
6	2.43	27.94	2.74
7	2.10	30.18	2.60
8	1.87	32.18	2.38
9	1.78	34.07	2.26
10	1.64	35.82	1.78
11	1.56	37.49	1.77
12	1.54	39.13	1.77
13	1.44	40.67	1.72
14	1.43	42.19	1.64
15	1.36	43.65	1.60
16	1.31	45.04	1.57
17	1.29	46.42	1.56
18	1.23	47.73	1.52
19	1.20	49.01	1.50
20	1.17	50.27	1.42
21	1.16	51.50	1.30
22	1.10	52.68	1.28
23	1.09	53.85	1.22
24	1.08	55.00	1.21
25	1.06	56.13	1.20
26	1.05	57.25	1.20
27	1.04	58.36	1.19
28	1.02	59.45	1.17
29	1.01	60.52	1.16

Table 5 shows the extracted principal components including the original eigenvalues. Those represent the variance explained by each component, thus indicating the importance of the factors. In total, 29 eigenvalues exceeded a value of “1”, contributing more to the explained variance than a single item alone. This 29-factor solution accounts for 60% of the total variance in the data. A Varimax rotation was applied to simplify the factor structure, which not only balanced the contribution of each component to the total variance but also facilitated the interpretability of individual components. For further

interpretation, components 1 through 18 were considered, which together explain nearly half (47.7%) of the total variability (Table 6).

Table 6: Factor interpretation, representative items and reliability

Component	Factor interpretation	Representative item(s)	Cronbach's α
1	External trainings	Duration of delivery: several consecutive days Location of delivery: multi-day training in a hotel	0.813
2	Online trainings	Format of delivery: online asynchronous (individual learning independent of time and place in an online course)	0.842
3	Professional support	Training activity: mentoring	0.759
4	Top-down selection content	Teacher competence development is supported when training content is determined by the ministry.	0.756
5	Extrinsic motivation	It is motivating when career advancement opportunities are associated with the training.	0.780
6	Resources	The following resources are sufficiently available for delivering my training sessions: budget for material expenses.	0.811
7	Training satisfaction	I am overall satisfied with trainings.	0.631
8	Intrinsic motivation	It is motivating when training helps participants in their daily pedagogical practice.	0.748
9	Job satisfaction	I am satisfied with my work–life balance.	0.721
10	Trainings during workhours	Time of delivery: in the morning	0.615
11	Bottom-up selection content	I want to be more actively involved in deciding which training opportunities are offered to teachers.	0.385
12	Peer learning	Which forms of collaboration support teachers' competence development? Peer learning	0.642
13	Practical testing	Which forms of collaboration support teachers' competence development? Practical testing and implementation	0.476
14	Group discussions	Which forms of collaboration support teachers' competence development? Group discussions	0.483
15	On-top trainings after class	Time of delivery: in the afternoon	0.433
16	Short trainings	Duration of delivery: a maximum of 2 hours	0.411
17	Informal conversations	Which forms of collaboration support teachers' competence development? Informal exchange	0.360
18	Learning materials	Which elements support teachers' competence development in training? Learning materials	0.246

The exploratory factor analysis reveals several underlying dimensions shaping teachers' perceptions of professional development. Each factor comprises items with similar response patterns, and Cronbach's Alpha was used to assess internal consistency (Table 6). Mean values were measured on a scale from 1 ("very low") to 5 ("very high").

External trainings are defined by multi-day, face-to-face formats held at external venues, such as hotels, universities, or other institutions ($0.448 \leq \lambda \leq 0.701$; $\alpha = 0.81$). These include seminars, excursions, or conferences, typically characterized by longer duration and structured delivery. Although such traditional formats are still considered relevant, their moderate mean value ($M = 3.64$) indicates that they are no longer the dominant form of professional learning. In contrast, **online trainings** emphasize digital and hybrid modes that allow temporal and spatial flexibility, including asynchronous courses, synchronous videoconferences, and blended learning formats ($0.508 \leq \lambda \leq 0.780$; $\alpha = 0.84$). This factor received moderate endorsement ($M = 3.32$), reflecting participants' openness to flexible formats while suggesting that online training is not yet perceived as fully equivalent to in-person events.

Professional support encompasses mentoring, coaching, participation in professional networks, job shadowing, and the exchange of teaching materials ($0.423 \leq \lambda \leq 0.759$; $\alpha = 0.76$). With a relatively high mean score ($M = 3.87$), this factor underscores the importance of collegial exchange and mentoring as central elements of professional learning.

Content specification can occur through both top-down and bottom-up mechanisms.

Top-down content selection represents content determined by ministries, educational authorities, or school leadership, partly aligned with institutional development goals ($0.472 \leq \lambda \leq 0.794$; $\alpha = 0.76$). Its mean value ($M = 3.14$) suggests that hierarchical or prescriptive approaches are perceived as less conducive to professional growth.

Conversely, **bottom-up content selection** captures teachers' desire and capacity to actively shape training content ($0.432 \leq \lambda \leq 0.610$; $\alpha = 0.38$). Despite its lower internal consistency, the relatively high mean ($M = 3.86$) highlights the perceived importance of autonomy and participation in determining professional development priorities.

Motivational factors can be distinguished between extrinsic and intrinsic drivers.

Extrinsic motivation includes certificates, ECTS points, monetary benefits, and career advancement opportunities ($\alpha = 0.78$), and achieves a moderately high mean value ($M =$

3.66). These results indicate that while external rewards are appreciated, they play a secondary role compared to internal drivers. Long-term, **intrinsic motivation** focuses on the meaningfulness and practical relevance of training, as well as opportunities for exchange and application ($0.595 \leq \lambda \leq 0.852$; $\alpha = 0.75$). The very high mean ($M = 4.60$) emphasizes that teachers are primarily motivated by lasting, practice-oriented learning outcomes rather than external recognition.

Training satisfaction captures the perceived usefulness, alignment with individual needs, and the impact of professional development on teaching practice ($\alpha = 0.63$). With one of the highest mean scores ($M = 4.13$), it indicates broad satisfaction with the available training opportunities and their relevance for professional advancement. Job satisfaction, which combines perceived workload, work-life balance, and overall occupational fulfilment ($\alpha = 0.72$), yields a balanced mean ($M = 3.39$), suggesting moderate satisfaction tempered by professional demands.

Resources – covering budgets for materials, equipment, software, and facilities – show strong loadings ($0.697 \leq \lambda \leq 0.834$; $\alpha = 0.81$). While respondents generally report adequate resource availability, the moderate mean ($M = 3.17$) suggests persistent constraints in material and infrastructural support.

Training timing and duration also shape participation preferences. Substitute training, referring to **training held during regular work hours** ($\alpha = 0.62$), is evaluated more positively ($M = 3.56$) than **on-top training conducted before or after classes** ($\alpha = 0.43$; $M = 3.43$). **Short training sessions**, characterized by concise formats lasting up to four hours ($\alpha = 0.41$; $M = 3.39$), are perceived as moderately favourable, indicating that short, focused formats integrated into the workday increase feasibility and acceptance.

Collaborative forms of learning – such as **peer learning** and **practical testing** – show solid factor structures ($0.745 \leq \lambda \leq 0.773$; $\alpha = 0.48$ and $\alpha = 0.64$, respectively) and moderate means ($M = 3.22$ and $M = 3.36$). These results suggest that while participants appreciate opportunities for hands-on collaboration, such approaches may still be underutilized in current practice. **Group discussions** ($\alpha = 0.48$; $M = 2.82$) and **informal conversations** ($\alpha = 0.36$; $M = 2.76$) load negatively or weakly, indicating that loosely structured discussions are perceived as less effective for competence development. The isolated factor **learning**

materials ($\alpha = 0.25$; $M = 3.12$) holds moderate importance, reflecting that tangible outputs support learning but are not a primary determinant of professional growth.

Figure 13 provides an overview of the factor means and their accuracy using 95% confidence intervals.

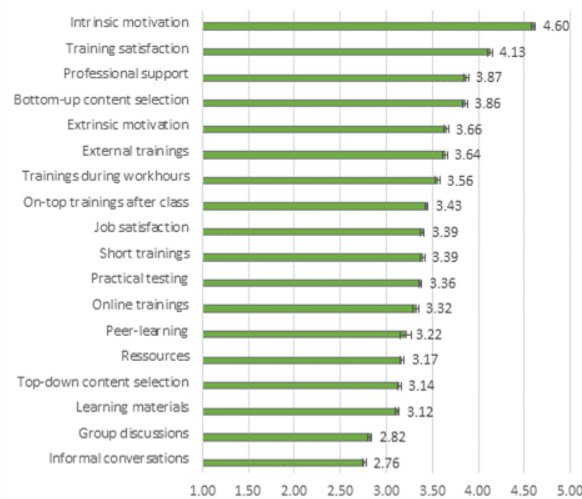


Figure 13: Factor means with 95% confidence intervals

Overall, the factor analysis differentiates between structural characteristics of professional development (format, duration, location), motivational drivers (incentives and intrinsic meaning), social learning processes (peer learning, mentoring, and exchange), and organizational conditions (top-down versus bottom-up content selection). Together, these dimensions offer a comprehensive understanding of teachers' preferences and experiences in professional learning, illustrating the interplay between structure, motivation, and agency in shaping effective professional development.

3.4.2 Regression models for further consolidation of the 18 factors found for satisfaction with continuing education and training

To identify the factors influencing training satisfaction, two OLS regression models were calculated (Figure 14).

The first model, which included independent rating factors, explains a substantial proportion of the variance in training satisfaction ($R^2 = 0.341$, $F = 188.84$, $p < 0.001$). Both

motivational components play a significant role: **extrinsic motivation** positively affects satisfaction ($\beta = 0.135$, $p < 0.001$), while **intrinsic motivation** shows an even stronger influence ($\beta = 0.219$, $p < 0.001$), underscoring its importance for sustained engagement and satisfaction. **Job satisfaction** also exerts a significant positive effect ($\beta = 0.175$, $p < 0.001$), indicating that overall professional well-being is closely linked to perceived training quality. In addition, **professional support** ($\beta = 0.064$) and **top-down content selection** ($\beta = 0.173$) contribute positively, though to a lesser extent. By contrast, factors such as **online trainings** ($\beta = 0.013$, $p > 0.05$) and **short trainings** ($\beta = -0.022$, $p > 0.05$) do not show significant effects on training satisfaction.

The second model, which included ranking factors, exhibits a weaker but still significant fit ($R^2 = 0.019$, $F = 17.29$, $p < 0.001$). Among these, **peer learning** has the strongest positive effect on **training satisfaction** ($\beta = 0.109$, $p < 0.001$), highlighting the value of collaborative and interactive learning environments. Conversely, **informal conversations** ($\beta = -0.094$, $p < 0.001$) and **learning materials** ($\beta = -0.040$, $p < 0.001$) are negatively associated with satisfaction, suggesting that these elements may be less effective in their current form. **Practical testing** ($\beta = 0.000$, $p > 0.05$) and **group discussions** ($\beta = -0.017$, $p > 0.05$) show no significant influence.



Figure 14: Regression models to identify influencing factors on training satisfaction

3.5 Summary of quantitative research results and conclusion

The results of the exploratory factor analysis and regression models provide a differentiated understanding of how teachers perceive, experience, and evaluate professional development. Overall, the findings indicate that continuous professional development (CPD) is most effective when it aligns with intrinsic motivational drivers, allows for meaningful participation, and offers opportunities for professional exchange and support. Training satisfaction emerges as a multidimensional construct shaped by personal motivation, work-related well-being, and the perceived relevance of training content and structure.

Intrinsic motivation stands out as the most powerful predictor of training satisfaction, underscoring the importance of designing professional development that connects closely with teachers' practical realities, encourages reflective engagement, and demonstrates clear benefits for everyday teaching practice. While extrinsic incentives such as certificates or career benefits contribute positively, they play a comparatively secondary role. Job satisfaction also proves to be a key determinant, suggesting that better working conditions and professional well-being should be viewed as integral components of successful professional development policies.

Social and collaborative learning elements, particularly peer learning and professional support through mentoring or coaching, further enhance satisfaction and perceived

learning outcomes. However, collaborative formats such as informal conversations or unstructured group discussions appear to be less effective in their current implementation. This points to a need for more structured and purpose-oriented approaches to collaboration, ensuring that exchange among participants contributes meaningfully to competence development.

In contrast, structural and organizational aspects – such as online formats, short-duration sessions, or top-down content determination – play a less decisive role in shaping satisfaction. Nevertheless, the relatively moderate ratings of digital and asynchronous formats suggest that the potential of technology-mediated learning is not yet fully realized. Continued efforts to improve the quality, interactivity, and integration of online professional development could enhance its acceptance and effectiveness.

4. Qualitative research

This report provides an overview of the qualitative research carried out within the framework of the EU-co-funded research project FOOTT PRINTTS.

4.1 Methodology of qualitative research

Following a thorough literature review and analysis conducted by the European Institute for Education and Social Policy (EIESP) in Paris, a quantitative study was conducted on the basis of these results with a total of 5,171 fully completed questionnaires (see Chapter 3). In a third research step, qualitative research was carried out by means of expert interviews in the regions of the six participating partner countries in Austria, Germany, Poland, Denmark, Portugal and Greece. The interview guide was prepared on the basis of the literature report prepared by the European Institute for Education and Social Policy (EIESP) and the results of quantitative research by the project members from Poland and Austria. In April 2025, the topics and questions for the qualitative interviews were presented to the team members of the partner countries at a meeting of all research partners. By the end of May 2025, feedback from the research partners was received. Once the final interview guide was finalized, three expert interviews were conducted per partner country: one interview with training participants and two with decision-makers such as training coordinators. The exception to this is the state leading the research project: In Nordrhein-Westfalen (Germany), three interviews were conducted with experts at the macro level. The guideline-based semi-standardized expert interviews were conducted in the period from June to the beginning of September 2025. The interviews were conducted by members of the research teams from Poland and Austria adapted to the interviewees in either German or English. A total of 19 people took part in the interviews. A total of six teachers were interviewed at the micro level (training participants) and 13 people at the macro level (decision-makers for continuous professional development for teachers). Decision-makers for the professional training of teachers can be, for example, political decision-makers or planners for the continuous professional development of teachers. The individual expert interviews lasted between 45 and 60 minutes. These interviews were semi-structured guided interviews. The order

of the questions was left up to the interviewer in order to give the interviewee the necessary space to be able to answer freely or to be able to react appropriately to the interview events. However, all questions had to be asked during the interview to ensure comparability of the data. The interview itself was divided into an information phase, an introductory phase, a main phase and a final phase. In the information phase, the interviewer greeted the interviewee, briefly introduced himself or herself and provided information about the course of the interview as well as the confidential treatment of data. During the introductory phase, simple questions about the person were asked (collection of socio-demographic data) in order to offer the interviewees the opportunity to find their way into the interview situation and to overcome their shyness about the unfamiliar communication situation. In the main phase of the interview, the topics relevant to the research project were discussed. In order to obtain relevant information or to keep the interview going, inductive questions were asked if necessary and meaningful for the course of the conversation. In the final phase, the interviewer thanked the interviewee for the cooperation and gave the opportunity for additions or deepening.

The interviews were transcribed in the language used in the context of the respective interview and evaluated with the help of the software for qualitative data analysis MAXQDA. For this purpose, corresponding text passages were assigned to previously deductively formed categories on the basis of the quantitative research results. These are the following categories: socio-demographic data, format, venues, duration of holding, holding time, implementation, trial phases, work with materials, group discussions and informal exchange, cooperation and learning from each other, professional support services, active participation, motivation, participation, competence of the trainers or moderators, satisfaction with training, job satisfaction and resources.

In order to ensure the greatest possible accuracy and authenticity of the statements, the evaluation was carried out in the respective languages used. In order to maintain confidentiality and protect the participants, all interviews were anonymized before evaluation. The anonymization was carried out by assigning randomly generated identification codes with the help of a random code generator in Microsoft Excel, which does not allow any conclusions to be drawn about the identity of the respondents. Each interview data set was given a unique code consisting of a capital letter and three

numbers, which replaced the names of the experts surveyed. The assignment of the codes to the interviews was documented in a separate, protected file that is not part of the analysis. This made it possible to process the data consistently without jeopardizing the anonymity of the participants. The procedure just described ensured that no direct connection can be established between the collected data and the real people and that the requirements for data protection and scientific integrity are met.

4.2 Results of qualitative research

In this section of the report, the results of the qualitative content analysis according to Mayring & Gläser-Zikuda (2008) of the 19 expert interviews with people at the micro and macro level conducted as part of the FOOTT PRINTTS research project are presented. First, the socio-demographic data of the interviewed experts are analysed and described, before the categories created deductively on the basis of the quantitative research, which forms the basis for the coding, are discussed.

4.2.1 Socio-demographic data of the experts surveyed

The people who took part in the expert interviews were between 27 and 66 years old. Both men and women participated, although it should be noted that the majority of those interviewed are women. This reflects the general gender distribution in the teaching profession, especially in primary and lower secondary education.

With regard to their professional background, it is noted that the interviewees belong to the following occupational groups or that they practice the following professions. It is ...

- Teachers with different professional experience from primary and secondary schools, who contribute their respective disciplines and teaching experience.
- School principals and people in coordinating roles who bring in organizational aspects and demand planning.
- Persons who are active in teacher training or as in-service supervisors for various in-service training groups .
- Individuals who act as educational quality supervisors.
- University teachers or university staff as well as directors and teachers in teacher training centers.

4.2.2 Format

The interviewees expressed differentiated views on the formats of continuous professional development training. While online formats are valued for their flexibility and accessibility, especially for theoretical content and for bridging long distances, face-to-face exchange and interactive work in face-to-face events are perceived as more profitable. Hybrid models that combine the advantages of both formats are considered ideal by some interviewees. According to the interviewed experts, the duration of the training courses should be adapted to the format and content of the training, with online sessions being kept shorter to ensure the attention of the participants. The choice of format is often driven by practical considerations such as time, cost, and the need for direct interaction.

4.2.2.1 Face-to-face events

Many respondents consider face-to-face events to be particularly valuable for personal exchange, interaction and practical application of learning content [C108: 6] [E205: 8] [K115: 25, 51] [L152: 378] [T214: 103-104] [T237: 40] [Y215: 460-461]. The opportunity to try out methods, test materials and exchange ideas directly with others is considered particularly valuable [R248: 133-145]. In-person events promote networking and building trust among participants [J165: 43] [L152: 386]. In addition, face-to-face courses are preferred for interactive, practical or complex topics that require intensive exchange and relationship work [J165: 6] [T214: 98].

Face-to-face events are particularly important when it comes to change, reflection on one's own role and attitude, as personal contact facilitates exchange [X251: 89]. In addition, according to the experts surveyed, face-to-face events enable direct exchange and networking, which enables more intensive discussions as well as the exchange of experiences and the establishment of networks [C108: 6] [L152: 386-388] [T214: 103-104] [T237: 40]. In addition, it promotes the development of stronger relationships and enables small talk, which is often neglected online [C108:6] [F238:197-199, 255] [L152:378]. Face-to-face formats are also ideal for practical exercises, trying out methods and materials, and workshops [E205: 8] [R248: 133-139] [Y104: 12, 27]. In-person formats are preferred due to personal well-being and avoiding distractions that can occur online

[K115:25]. In addition, participants can be better cognitively activated in presence [Y164: 180]. Doing things yourself, developing and discussing things with other participants, rather than just listening, is appreciated [R248:133-140]. It is emphasized that direct exchange in face-to-face events is more intensive and profitable, especially in complex topics such as autism, where the exchange of experiences among teachers can be very communicative [T214: 98, 109-110].

The disadvantages of face-to-face events cited by the experts surveyed were the time and travel costs involved, as well as the logistical effort associated with the organization of training courses in a face-to-face format. Attendance at face-to-face events requires travel time and may involve travel and accommodation costs [F238: 208-209] [K115: 29] [T214: 94] [Y104: 19]. The organization of premises, catering, and other logistical aspects also represents an additional effort for the training coordinators [E205: 8]. Teachers are often tired after a long day at work, which makes it difficult to participate in events [F238: 496-497] [T214: 434].

4.2.2.2 Online formats

The people surveyed expressed differentiated views on online formats in the continuous professional development of teachers. While some appreciate the flexibility and time savings, others emphasize the importance of face-to-face exchange and interaction in face-to-face events. According to the experts surveyed, online formats are often seen as practical for conveying information or for specific digital tools, but they reach their limits when it comes to in-depth discussions, relationship work or the promotion of creativity. Online formats are particularly appreciated by teachers in rural areas or with busy schedules because of their flexibility and accessibility [C108: 6] [E205: 8] [F238: 188-193, 207-209] [J165: 6] [K115: 25] [M229: 26] [Y104: 12]. The ability to participate from home or school saves travel time and costs, which is highlighted as a big plus by several respondents [E106: 83] [E205: 8] [K115: 25] [M229: 26]. This is particularly relevant for teachers who live on islands or would have long journeys to the location of the training [K115: 29]. Online formats enable participants to better reconcile their training with their everyday lives [Y215: 24]. They provide a comfort zone in which participants feel more relaxed and can concentrate better on the content, as external appearance and social roles play less of a role [E106: 375-385].

The acceptance and effectiveness of online formats depend heavily on the design, technical equipment, and motivation of the participants. For online formats, careful design is recommended that goes beyond pure lectures. It is emphasized that online training should not only consist of PowerPoint presentations but can use a variety of technical possibilities to show materials and promote interaction [Y215: 375]. Interactive elements such as breakout rooms for group discussions and the opportunity to exchange ideas are described as effective [L206: 69] [Y215: 379] [C108: 6]. The use of online tools such as Google Docs or Google Slides for collaborative work is rated positively [M229: 46]. In addition, online formats can facilitate the presentation and demonstration of digital tools, as they can be shown directly via screen sharing [E106: 371].

The advantages of online formats are flexibility and accessibility, as participation is possible from anywhere and at flexible times, which is particularly advantageous for teachers with long journeys or limited time resources [C108: 6] [F238: 188-193, 207-209] [J165: 6] [M229: 26] [Y104: 12]. In addition, the implementation of training in online format is associated with cost savings, as costs for travel and physical venues are reduced [F238: 208 209] [M229: 28]. Some respondents find online formats to be more personal, as participants share more private details from their home environment [F238: 195-197]. For those with anxiety or similar mental health issues, participation from home may be easier [F238:211-218]. Online formats are particularly suitable for imparting information and theoretical knowledge [Y164: 163-165].

Despite the advantages mentioned, many respondents express concerns and disadvantages about online formats. A frequently cited point of criticism is the lack of direct communication and the difficulty of interaction between participants, for example when training participants do not turn on the camera and do not speak up [E205: 8]. It is also criticized that online sessions are often more static and offer less space for spontaneous exchange and relationship work than face-to-face events [X251: 89]. Concentration can decrease more quickly in online formats, which is why a shorter duration of 1.5 to 2 hours, for example, is preferred in this training format [T214: 109]. Longer online sessions are perceived as exhausting and tiring [T237:22]. Infrastructural inequalities such as unstable internet or outdated equipment can limit the effectiveness of online formats [J165: 6] [E205: 8]. Technical hurdles and the need to operate several

systems simultaneously can overwhelm training participants [X251: 97-99]. Some teachers, especially older people in this professional group, have difficulties with online formats and prefer face-to-face events [T214: 200]. The possibility of being more easily distracted in online formats is also cited as a disadvantage [K115: 25].

Disadvantages of online formats are thus the lack of direct communication, technical challenges, distractions from the home environment, "screen fatigue" and low cognitive activation. According to the experts interviewed, the lack of direct communication leads to difficulties in interaction and building relationships [E205: 8] [F238: 222] [K115: 25, 49] [L152: 378] [R248: 577-579]. Training in an online format can be accompanied by technical challenges such as unstable internet and outdated equipment. Lack of technical competence can affect the effectiveness of this training format [E205: 8] [J165: 6] [X251: 97-99]. In addition, the home environment can lead to distractions in online formats [K115: 25]. It is also more difficult to cognitively activate participants online [Y164: 180]. Longer online sessions can be very exhausting ("screen fatigue") and a maximum duration of three to four hours is often considered practicable by the experts surveyed [X251: 129] [T237: 22] [X251: 129].

4.2.2.3 Hybrid Formats

Hybrid formats that combine online and face-to-face components are perceived by several respondents as a promising compromise or even considered an ideal solution, as they combine the advantages of both formats and thus offer flexibility, amplify learning through different channels and enable face-to-face interaction [J165: 6] [Q105: 37-38] [X251: 75] [Y104: 12]. These models can, for example, combine live workshops with online follow-up sessions or discussion forums [J165:43]. Hybrid formats are increasingly being used to improve accessibility while promoting exchange [X251:75] [Y164:98].

The advantages of hybrid formats are the combination of the advantages of online and face-to-face formats, the adaptability as well as the possibility of high-flex models, where training participants can choose whether to participate online or in person, which offers maximum flexibility [F238: 242-256]. Hybrid formats combine the flexibility and accessibility of online formats with the interaction and relationship building of face-to-face events [J165: 6] [Q105: 38]. Depending on the content and goal of the training, it is possible to find the right mix of online and face-to-face parts [T214: 103-104].

4.2.2.4 Conclusion

The people surveyed show a clear tendency to prefer face-to-face events for their interactive and personal nature, while online formats are valued for their flexibility and accessibility. The design of online formats must be active and varied to ensure the motivation and commitment of the participants. The choice of format and duration depends heavily on the specific goals of the training, the content, and the needs of the participants. While online formats offer a high degree of flexibility, face-to-face events are often essential for in-depth interaction and practical applications. Hybrid approaches that combine the advantages of both formats are increasingly seen as forward-looking by the experts surveyed. Regardless of the format, it is crucial that the training courses are practice-relevant, promote exchange, and take into account the individual needs of the teachers in order to achieve a lasting effect.

4.2.3 Venues

The choice of venue for training depends on the learning objectives, budget, and preferences of the participants. Schools and universities are named by the interviewed experts as suitable places for continuous professional development, but external conference centers, museums or even nature can also be useful depending on the aim of the training [C108: 10] [J165: 10] [K115: 30] [R248: 638-647]. The proximity to the place of residence of the teachers is an important factor in terms of travel time and costs [C108: 10].

According to the experts surveyed, training courses that take place directly in schools offer positive conditions and are the most effective because they enable action-based learning and are directly related to teaching [E205: 8] [L206: 219]. It is mentioned that schools with special equipment are preferred as places for continuous professional development because they offer suitable facilities and are cost-neutral [Y164: 216-218]. In more rural or remote areas, where the distances for teachers participating in the training are longer, it is still difficult to find enough participants for the training to take place despite the existence of a suitable venue [Y164: 219-224]. In-school training often takes place in the schools themselves in order to take into account the real situation of the teachers [Q206: 175]. However, continuous professional development courses that

take place in schools also offer challenges in the form of distractions and a lack of or inadequate infrastructure [K115: 25] [J165: 6].

Universities and colleges often offer specialized equipment of rooms for certain subjects such as chemistry, which can lead to a possible transfer problem into everyday school life if the equipment there does not correspond to the reality of the schools [Q206: 172- 173]. Hotels are cited as a very good solution for longer in-person training formats that take place outside the place of residence, as there is no additional travel time, and external conditions and catering are guaranteed [E205: 8]. The provision of food and accommodation is considered important to facilitate participation and increase the comfort of the participants [J165: 10]. The room as a "third pedagogue" can play an important role, and an appealing ambience can promote the willingness to learn [X251: 212, 225].

Museums are also mentioned by the experts surveyed as venues because they offer variety and inspiration [R248: 638] [M229: 30].

One interviewee mentions that the travel time to training should not be longer than the event itself and suggests a mix of online and face-to-face formats to reduce travel time [T214: 146, 150].

In summary, the choice of venue is a complex interplay of learning objectives, budget, logistical possibilities, and the preferences of the participants.

4.2.4 Duration of the holding

The experts surveyed agree that it is not possible to make a blanket statement about the recommended duration of training courses, as the duration of training courses should be adapted to the format and content of the training.

For example, online formats should be shorter in order to better reconcile with everyday work and the faster decline in attention online in order to maintain the active participation of the participating teachers, ideally one and a half to four hours, with breaks if necessary [Y215: 24] [Y215: 57] [E106: 83] [F238: 313, 319] [K115: 25] [T214: 109] [T237: 22] [X251: 129] [Y104: 16] [Y164: 205].

In-person events can be longer than online formats. It is mentioned that full-day formats are possible in presence, while online formats require a different structure and become

ineffective if they last too long [Q206: 131, 136-137] [X251: 129-131]. Up to six hours per day for face-to-face events or even several days with overnight stays are mentioned in order to enable intensive work and in-depth discussions [C108: 8] [E205: 8] [F238: 308, 232] [Q105: 14] [T214: 115, 130] [Y104: 16]. Training courses that deal with procedural change should last for a longer period of time in order to bring about lasting changes, instead of one-off short events [X251: 134]. "One-shot events" are rejected, and it is emphasized that the duration depends on the content and that scientific studies on sustainability and effect size must be taken into account [Q206: 93] [Q206: 100]. It is emphasized that a single tag is "nothing", as it is often only superficial ("just a candy"), and longer formats allow for more discussion and reflection [R215: 13]. It is mentioned that subject-specific training courses are often one-day, but this is perceived as less sustainable [Y164: 252]. For effective training, a duration of 32 hours is recommended, depending on the topic [C108: 8]. Classroom training of 36 to 40 hours should include theoretical foundations, practical tasks, and evaluation [Y104: 21]. Retreats lasting several days are seen as the means of choice, especially if intensive work is to be done on content, for example for school management qualifications, even if these tie up personnel resources and are expensive, which is a question of cost for the organization [Q206: 194-195, 197, 199-200]. Multi-day events are also considered to be particularly transformative for pedagogical innovation and team building, as intensive exchange and practical work are possible, but require logistical support [J165: 8] [Q105: 14] [Y164: 352, 367] [R248: 791, 796]. Moments of socialization, training, and exchange of experiences are made possible in the context of multi-day training formats in presence [Q105: 14]. Despite the positive aspects mentioned, challenges for participants are mentioned in addition to the question of resources: The time required to participate in face-to-face training courses lasting several days is high for teachers and is rarely possible, especially for people with family obligations [T214: 120-121, 126]. In addition, multi-day events are not always practical due to travel time and costs, especially if a long journey is necessary [K115: 33].

In summary, short online training courses are appreciated for better compatibility with everyday life and the elimination of travel time and costs. However, longer formats in presence are considered more effective for sustainable competence development,

intensive exchange, and practical application. The duration of training courses depends heavily on the format of the training, the respective topic, and the learning objectives.

4.2.5 Holding time

The respondents expressed different opinions on the ideal time to hold training courses, whereby both the duration and the timing play a role.

As the experts surveyed report, teachers prefer continuous professional development during working hours if substitute staff can be provided for pedagogical work, which is an organizational challenge [J165: 8] [T237: 16] [Q105: 10] [T214: 163-164, 174] [Y164: 96, 99]. For example, continuous professional development courses take place Monday to Friday until a maximum of 4:00 p.m., although the start varies depending on the format [Q206: 123]. It is suggested that training courses should start at 9 a.m. or generally take place in the morning hours [C108:8] [K115:27]. Many teachers find it difficult to take part in a training course after eight hours of pedagogical work. Afternoon or evening events are often perceived as a burden, which can be an obstacle to participation [T214:434] [Y164:99] [J165:8] [M229:18]. It is also proposed to shorten school days for pupils on training days so that teachers can participate in training when they are less tired [F238: 554, 558-559]. In addition, continuous professional development during the holiday season is considered more practical [M229: 26]. Continuous professional development that takes place on weekends is possible for official reasons but is not supported by staff representatives [X251: 150-151].

In summary, it can be said that the holding time of training courses is a complex topic that is influenced by organizational factors and the individual needs of teachers.

4.2.6 Implementation

The successful implementation of training content in everyday pedagogical life with children and adolescents depends on a variety of factors. These can be divided into the areas of practical relevance and relevance, motivation and support, exchange and reflection as well as the design of the training.

4.2.6.1 Practical relevance and applicability

A central aspect for successful implementation is the direct applicability of the training content. The experts interviewed emphasize that content that educators can use directly in their everyday lives and that uses examples to convey concrete tools and strategies that are directly applicable and implementable, even if they are only small aspects, are preferred [L152: 222] [M229: 36] [T214: 278-279] [J165: 15, 31] [T214: 288] [E106: 151-153]. The need to adapt training content to one's own teaching reality is emphasised. Educators already consider during their participation in the training how they can adapt and adopt training content and materials in order to make them usable for their pedagogical work with children and young people [T214: 279-280, 294-296]. According to one interviewee, pupils are also enthusiastic when they can implement new things in the classroom that the teacher has previously learned in further training, especially since textbooks are often outdated [M229: 36]. It is appreciated by educators if methods or materials can be tried out and developed directly in the training event and active participation is possible [R248: 133-140].

The relevance of the topics for the current challenges in everyday pedagogical life is also decisive. Educators are looking for advanced training courses that will help them cope with specific problems such as dealing with children with special needs or new technologies [E205: 14] [L206: 162] [Y215: 176-178]. It is emphasized that implementation is easier for educators if the training contains various small inputs that are based on teaching practice in order to do justice to the everyday situations of the participants and to facilitate the transfer into the classroom [E106: 105] [Q206: 394-395]. Periods of reflection and exchange with colleagues are also seen as crucial for the implementation of what has been learned [R248: 240-245]. It is considered helpful if time is planned during the training for reflection and exchange with other participants in order to process what has been heard and to consider what changes an implementation of the training content would entail in everyday pedagogical life [R248: 531-533, 537].

4.2.6.2 The role of the management of the educational institution and the college

The support of the management of the educational institution and an open-minded staff are essential for the successful implementation of training content [J165: 19, 31, 33] [L206: 382] [R248: 296-305] [Y164: 263, 297]. If all colleagues in an educational institution

participate in the same training, the implementation of training content is much easier, as participation creates a common understanding and a common language [R248: 240-245, 719-721]. The exchange with colleagues and the opportunity for reflection are important elements that contribute to successful implementation. The fact that educators pass on their acquired knowledge to the staff is considered valuable [T214: 258]. The role of multipliers within educational institutions, who pass on what they have learned to colleagues and thus enable broader implementation, is emphasized, but the necessary time is often lacking in everyday pedagogical life [Y215: 162-164, 488-490].

School principals can use training in a targeted manner to promote school development goals and multiply knowledge within the staff [Y215: 157-159]. It is suggested that schools should develop a concept that establishes standards and routines for sharing information about educational content, rather than leaving it to individuals [Y164:315-317, 321-322]. It is also emphasized that the school management has a responsibility for personnel development and cannot arbitrarily refuse participation in further training [Q206: 244-245].

4.2.6.3 Implementation Challenges

Despite the desire for practical application, there are also challenges in implementation. Integrating training content into everyday pedagogical work can be difficult, especially when educators are overburdened and left alone with implementation [R248: 243-245] [Y164: 93-94, 292]. However, a lack of time for an intensive examination of the content of the training after the event and for the multiplication of training content in the staff are also a challenge for the implementation of learned content in everyday pedagogical life [Y215: 162-164]. Another problem is the lack of sustainability of training courses that do not include direct testing or reflection phases. It is emphasized that just listening for six hours is unlikely to lead to changes in practice [F238:636-638]. The importance of "action-based learning", in which educators try out new approaches and then reflect on them as a team, is emphasized [F238: 506-507].

4.2.6.4 Organization of the training

The way in which training courses are designed has a significant influence on implementation. A balanced mix of theory and practice is crucial [R215:21]. Purely

theoretical approaches are criticized and the need for practical tools that teachers can apply directly is emphasized [X251: 244-245, 431]. Processual training should be designed over a longer period of time and include several impulses as well as phases of testing in everyday pedagogical life [X251: 133-134, 431]. The combination of new theories with practical exercises and the opportunity for discussion is considered beneficial [R248: 517-523, 791-796]. The quality of the trainers or moderators at training events plays a major role. They should not only be technically competent, but also able to establish contact with the participants, respond to their needs and offer a good structure [L152: 128-132] [T214: 316]. It is emphasized that trainers or moderators who combine theoretical input with practical relevance and understand the challenges of everyday pedagogical life are particularly valued [Y215: 137-139]. The framework conditions of the training, such as the choice of format (online, face-to-face, hybrid) and the duration, are also relevant.

4.2.6.5 Conclusion

The feedback from the experts surveyed on the implementation of training content is diverse. The integration of practical exercises, reflection and exchange as well as the support of the staff and the management of the educational institution are crucial for successful implementation in everyday pedagogical life. In summary, it can be said that training content is best received by children and young people when the training courses are designed in a practical way and the content is implemented by motivated educators in a supportive environment in which exchange and reflection are promoted. The frequently mentioned challenges include lack of time, bureaucratic hurdles and the need to adapt content to one's own reality and for diverse learning groups. A recurring theme is the need for content to be practical and directly applicable to everyday pedagogical life in order to provide tangible benefits for both teachers and learners [E106: 105, 152-153] [J165: 2, 15, 31] [K115: 39] [L152: 222] [M229: 12, 22] [Q105: 25] [R215: 21] [R248: 133-134] [T214: 277-279] [Y164: 286-287].

4.2.7 Testing phases

The opinions of the interviewees on trial phases in vocational training are diverse and reflect different experiences and preferences. In general, the opportunity to directly try

out and develop new methods and materials is considered very valuable in ensuring transfer into practice [R248: 133-139, 518-522].

The experts interviewed emphasize the importance of not only teaching training content theoretically, but also offering the opportunity to try it out in practice. Training courses in which participants can become active and do something actively (e.g. drawing, painting or building) instead of just passively listening, in which methods, exercises or materials that can be implemented directly in everyday pedagogical life can be presented and tried out or developed together with others and through which one can exchange ideas with other participants, are valued and considered profitable [R248: 133-140, 144-145, 521-524] [T214: 288]. The practical application of training content, for example in the form of material review and trying out exercises, is considered crucial for learning success and motivation [R248: 524-526] [T214: 297-298]. Working on case studies in groups can also promote practical implementation [E205: 8]. One interviewee reported on a training course on reading, in which he immediately followed up on what he had learned at home and applied it the next day at school in order to internalize it [E106: 137-138].

Some experts interviewed are in favour of long-term and process-oriented training courses that take place over a longer period of time and integrate periods of reflection and the possibility of testing in everyday life in order to achieve more sustainable teaching development, even if this means that participants have to come more often [Y164: 252-254, 258]. One interviewee described a training course that lasted over a year and consisted of several sessions, with time between sessions to try out what had been learned in everyday pedagogical life and then to reflect on it, which was found to be very helpful and intense [R248: 791-796, 809]. Trial phases are particularly effective when they take place in a supportive environment, for example with colleagues from the same school, as this facilitates the exchange and joint implementation of what has been learned in everyday school life [R248: 240-245, 305].

In summary, it can be said that trial phases are seen as an integral part of successful training courses in order to promote the transfer of knowledge into practice. The design of these phases should be flexible, take into account the needs of the educators participating in the training and offer sufficient time for reflection and exchange. Trial phases and the possibility of direct application of further training content are considered

by the experts surveyed to be extremely important for the learning success and motivation of educators.

4.2.8 Working with teaching materials

The experts surveyed expressed a wide range of opinions on working with teaching materials in advanced training courses, with a strong focus on practical relevance, relevance and the possibility of direct application in the classroom. A recurring theme is the desire for teaching materials that can be used directly in everyday pedagogical life. Participants prefer training courses that present concrete exercises, materials or tools that they can apply directly in the classroom [T214: 288-296] [Y164: 286-287] [Y215: 137-139] [K115: 41]. Teaching materials should not only impart knowledge, but also promote creativity, as it can enable them to overcome challenges in all areas of life. [K115: 43, 47]. The need to adapt teaching materials to one's own reality and the needs of the pupils is also emphasized [K115: 39]. One interviewee states that it is easiest for them to fall back on concrete materials, even if they cannot use them 1:1, because they immediately have an idea for working with the students [T214: 294-296]. The possibility of developing materials instead of just listening is also perceived positively [R248: 133-139].

Digital teaching materials and online resources are playing an increasingly important role. The possibility of getting to know online tools directly in online training courses and their presentation via screen sharing is seen as an advantage [E106: 371]. Online trainings that enable the exchange of developed materials for different classes and educational levels are rated positively [C108: 6]. The creation of a Weebly platform during the Corona pandemic, where all primary school teachers in a project partner country could upload and share their materials, which was perceived as very helpful, is reported by one respondent [M229: 38]. Another interviewee mentions that they delve into the teaching materials room to find suitable materials and also consider online websites and search portals to be material [E106:54, 408-413].

Despite the desire for practical materials, there is also criticism. The desire for further training courses that teach new strategies for teaching pupils in different ways is expressed, as textbooks are often outdated and boring and have nothing to do with the pupils' lives [K115: 23] [M229: 36]. It is pointed out that educators often expect ready-

made material that they can use directly in class. However, this is not advantageous, since the training participants are supposed to deal with the content and transfer it into their own practice themselves in order to achieve maximum learning effectiveness [X251: 244-249]. The role of the trainers or moderators of training events is crucial in the communication of teaching materials. They should not only provide theoretical input, but also provide practical examples and tips that help participants to implement them in everyday pedagogical life [Y215: 137-139]. Sharing materials and strategies with other educators is considered enriching and valuable, as it opens up new ideas and perspectives [E106: 54] [M229: 20, 38].

In summary, it can be said that the experts surveyed commented on the work with teaching materials in training courses in a variety of ways. A central topic is the relevance and practical relevance of the materials, whereby the desire for directly applicable content and concrete examples becomes clear. Digital resources are seen as an important complement to traditional materials that facilitate access to new information. The possibility of creating or adapting materials yourself is perceived as motivating. At the same time, it emphasizes the need for teaching materials to promote creativity and be tailored to the needs of learners to ensure effective implementation in the classroom. The quality and topicality of the materials play a decisive role in the satisfaction of the participants.

4.2.9 Group discussions and informal exchange

The experts surveyed expressed different opinions on group discussions and informal exchange in the context of further training. While some interviewees consider the exchange and discussions to be very valuable, rounds of introductions, especially in shorter training formats, are perceived as disturbing and irrelevant, as you only see each other for a short time and the experiences of the other participants are not always relevant for the training [E106: 87-89, 188]. Having space for discussion and conversation with other training participants is considered important [R248: 145, 523]. The exchange is perceived as particularly intensive and profitable when it takes place in presence, as the participants get in touch differently than with training courses in online format. There are distractions and discussion is very little in online training, with participants often just

exchanging "question, answer, question, answer" [Y164: 164-165, 169-172] [T214: 98, 197-198]. Sharing in online breakout sessions is less communicative due to the static classroom environment, and engaging in discussions and establishing relationships is more difficult than in person due to the lack of eye contact, for example [T214: 192-194] [R248: 577-579] [K115: 25, 49] [F238: 222-224, 231-235]. It highlights that sharing ideas and challenges with other educators is very beneficial, especially in face-to-face sessions, as new ideas can be collected, new insights can be gained, and experiences can be shared, leading to mutual motivation [E106: 87-89, 219-220] [T214: 59, 98] [K115: 35]. The quality of the moderation and the ability of the trainers or moderators of training events to use the participants' prior knowledge as a resource and to perceive their needs are also decisive in order to promote "good discussion and reflective, practice-oriented learning" [K115: 53] [F238: 846-847].

It is also mentioned that hospitality elements such as coffee breaks and meals increase the comfort of participants in training courses and promote informal learning [J165:10]. One interviewee ironically remarks that teachers are extremely frugal and that the offer of coffee is sometimes already reported as a success of the training, because otherwise they never get coffee [Q206: 304]. This suggests that even small gestures of appreciation and the opportunity to take a break can increase satisfaction. The informal exchange, which takes place during lunch breaks or breaks, for example, is highlighted as important for socialization and getting to know the practices of other schools. The opportunity to exchange ideas with colleagues and build networks is cited as a significant advantage of face-to-face events, as it is possible, for example, to learn more about the work of other colleagues participating in the training after lunch [K115: 51].

In summary, conversations during breaks and informal exchanges are considered valuable for socialization, knowledge sharing, and overall satisfaction of participants, especially in face-to-face formats. Online formats make this type of interaction much more difficult, which is perceived as a disadvantage. In training events, trainers or moderators should create an environment that promotes informal exchange and discussion by using interactive methods and taking into account the needs of the participants.

4.2.10 Cooperation and learning from each other

The experts surveyed expressed a wide range of opinions on cooperation and mutual learning in continuous professional development. In general, the exchange in the context of training courses is perceived as extremely important and profitable, with face-to-face formats often preferred to enable deeper interaction [T214: 59] [X251: 11] [Y164: 164-165] [Y215: 55]. It is emphasized that there is more and better cooperation in face-to-face events and that personal contact is important in order to exchange information about the work of other schools [K115: 51]. The exchange with colleagues is considered extremely important in order to gain new ideas, share experiences and reflect on one's own practice [T214: 58-59, 88-89] [E106: 54]. In order to gain a broader perspective and to be able to integrate new approaches into one's own practice, the need to exchange ideas, especially with colleagues from other countries, is emphasized [K115: 17, 35]. The exchange of experiences between educators and the sharing of materials is considered beneficial [E205: 8]. Face-to-face formats are experienced as more substantial than online formats, especially when it comes to exchange and mutual benefit through cooperation [Y164: 164-165]. In training courses in online format, it is perceived as difficult to connect with other participants and to have discussions [R248: 569, 577-579]. Despite the preference for face-to-face formats, training courses in online format are valued for their flexibility and accessibility, as they give participating teachers the opportunity to express themselves, exchange experiences and opinions and propose solutions, as well as share materials, regardless of location and without the expense of travel time, for example in breakout rooms, which is important in terms of time compatibility with the everyday life of teachers [C108:6][Y164:163] [X251:101] [Y215:24, 356].

For cooperation within a college of an educational institution, it is advantageous if several colleagues participate in the same training, as this makes it easier to apply new knowledge in the educational institution and to implement changes there [R248: 240-242, 245, 282-287]. In addition, cooperation with the management of the educational institution plays a major role; this can promote the possibility of multiplying knowledge within the educational institution and support the exchange of training content and materials learned, which is crucial for the implementation of training content in everyday pedagogical life [T214: 258, 264]. In this context, it is helpful if colleagues who have not

taken part in the respective training courses are open to new ideas and support their implementation [R248: 296-300, 305] [Y215: 159-160].

Despite the desire for cooperation, this can be hindered by a different mentality, for example. If teachers prefer to work on their own, cooperation is made more difficult [T237: 42]. In addition, cooperation is made more difficult if superiors do not see the need for cooperation, which leads to separate work and no joint groups or communities can be created [C108: 44]. Lack of time and the overload of teachers are also frequently cited obstacles that make it difficult to participate in training courses and consequently to collaborate [M229: 18] [R248: 398] [Y164: 93- 94] [Y215: 70-71]. One interviewee expresses that they do not like to work in groups during training courses because it is tiring after a hard day at school and you have to fit into a certain role [E106: 205- 210, 214]. It is also mentioned that the time for the exchange and multiplication of knowledge is often lacking in everyday school life, although this would be desirable [Y215: 162-163].

In summary, cooperation and learning from each other are considered indispensable for the professional development of teachers. While face-to-face formats are valued for their intensive exchange with regard to the topic of collaboration, online formats offer flexibility. Professional learning communities are considered valuable by the experts surveyed to promote exchange, reflection and the implementation of new content. However, the effective implementation of training content requires not only the motivation of the individual, but also the support of the staff and the management of the educational institution. However, challenges such as lack of time must be overcome in order to realize the full potential of learning communities [C108:44] [K115:17] [M229:18, 20] [Y164:164-165, 180-181, 187].

4.2.11 Professional support services

The experts surveyed expressed their differentiated views on professional support services. While some highlight the importance of mentoring and coaching for professional development and the implementation of new practices, others see these formats more as separate areas that do not directly belong to continuing education in the traditional sense. Observations are considered valuable for exchange and learning from practice, especially for career starters. Mentoring is important for the continuous

development and improvement of the professional practice of educators [Q105: 21]. Direct exchange with colleagues or mentors at school who have professional expertise is sometimes perceived as more profitable than attending training courses at external locations [T214: 435, 439, 443].

Coaching sessions tend to be viewed as separate offerings that do not directly fall within the scope of continuous education, although their benefits are generally recognized. [E106: 269-270, 279]. One respondent who has completed coaching training herself finds coaching to be extremely helpful in their daily interactions with people and reports that school leadership teams that are coached are more efficient when they come together outside of school [X251:288, 185]. Another interviewee expresses concern that issues such as educators' well-being and personal development are marginalized in favour of new curricula and methods, even though these pieces of the mosaic are essential for teacher motivation and engagement [Y215:311, 335-336] It is suggested to focus on educators' resilience and support, to prevent burnout and maintain a motivated teaching staff [Y215: 190-191, 199-204, 223-230]. This could imply that coaching and mentoring approaches aimed at well-being should play a greater role.

Job shadowing is seen as a valuable tool for exchange and learning from practice, especially for career starters. During their traineeship and later on, young teachers have the opportunity to sit in on other classes and thus gain inspiration for their own lessons [T214: 447-448]. However, the implementation of findings from further training in everyday school life can also be promoted by mutual observations by one's own review board or by colleagues from other educational institutions [Q206: 107] [Y104: 35]. This underlines the value of job shadowing as a practical and collaborative form of learning.

In summary, mentoring, coaching and job shadowing are perceived as important, albeit differently defined, components of the professional development of educators. While mentoring and coaching can support personal growth and overcoming professional challenges, job shadowing offers concrete insights into teaching practice and promotes collegial exchange.

4.2.12 Active participation

In order to encourage active participation, the experts surveyed cited various aspects such as practical relevance and applicability, the competence and commitment of the trainers or moderators, interactive and varied methods, opportunities for reflection and discussion, clear communication, and organization. According to the experts surveyed, the practical relevance and applicability of the content promotes active participation. Continuous professional development content should be directly applicable in the classroom and offer concrete materials, strategies, and examples [J165: 15]. [Y164: 286-287]. Competent and committed trainers or moderators should not only have theoretical knowledge but also practical experience and be able to inspire participants in order to promote active participation [J165: 16] [L152: 130, 132] [T214: 316]. Interactive and varied methods such as workshops, case studies, peer exchanges, and playful elements promote active participation and engagement [J165: 17] [R248: 133-139] [Y164: 360-361]. Time for joint reflection and discussions with colleagues is important in order to actively process what has been learned and integrate it into one's own practice [R248: 531-532, 537]. Transparent communication about content, goals, and organizational processes contributes to satisfaction and motivation and promotes active participation through the clearly communicated structure of the training [L152: 104, 106].

According to the experts surveyed, promoting active participation in training depends on several key factors. In summary, it can be said that active participation in training courses is significantly influenced by practice-relevant content, direct applicability in the classroom, and the competence and commitment of the trainers or moderators. Interactive methods such as workshops and peer exchanges also promote engagement. Time for reflection and discussion, as well as transparent communication about content and processes, contribute significantly to the motivation and satisfaction of participants.

4.2.13 Motivation

In the following, the diverse perspectives on intrinsic and extrinsic motivation in professional development are presented according to the statements of the experts surveyed. Intrinsic motivation, such as the desire for personal and professional growth, improvement of teaching practice and enjoyment of learning, is often cited as the main

driver. Extrinsic factors such as certifications, career advancement and financial incentives also play a role, but are often perceived as secondary or necessary evils.

4.2.13.1 Intrinsic Motivation

A strong inner drive for personal and professional development is a recurring theme in the 19 qualitative interviews conducted. The intrinsic motivation of teachers to develop further and gain new insights is described as very high [E106: 19] [J165: 12] [R215: 15] [R248: 173-174]. They want to gain new insights, improve their skills to better meet the changing demands of their profession and pupils, and increase their own job satisfaction [E106: 19, 243] [M229: 12] [R215: 19] [R248: 173-174, 500]. Personal development, both as a person and as a teacher, and the gain of new knowledge are the motor of personal motivation and on the one hand bring joy and on the other hand are felt to be necessary in order not to stand still, [E106: 19-20] [M229: 12]. Teachers are motivated to learn new techniques and to improve their skills for application in everyday pedagogical life, so that their own lessons can be made more diverse and appealing and the joy and satisfaction of the pupils increase [R248: 19, 173-174] [M229: 12] [K115: 19] [T214: 60, 397]. Another aspect of intrinsic motivation is the desire for exchange and networking with colleagues. The opportunity to exchange ideas, learn from the experiences of others and find solutions to challenges together is perceived as very valuable [M229: 20] [T214: 88-89]. The exchange with other teachers on relevant topics is appreciated and the collegial exchange is considered extremely important in order to discover and try out new ideas [E106: 54] [T214: 59].

4.2.13.2 Extrinsic motivation

Extrinsic factors also play a role, but are weighted differently. In some countries, such as Poland and Greece, certificates and official certificates of teacher training are of great importance for professional development (e.g. position as school principal) and financial incentives, which are interesting due to low wages [C108: 16] [E205: 10] [M229: 14, 16] [Y104: 18-21]. In Portugal, too, continuous professional development is a prerequisite for career advancement. Many teachers attend training courses only because they are compulsory. However, the exchange with colleagues and the sharing of knowledge are also important motivations [Q105: 19] [R215: 15, 19, 23-24]. In other contexts, certificates

for training participation for teachers without the desire to take on a leadership role play a less important role in continuous professional development courses participation [R248: 230-236] [Y164:114-116, 128-136].

4.2.13.3 Conclusion

In summary, it can be said that the motivation to continue one's professional education is strongly influenced by an inner desire for improvement and the direct applicability of content in everyday pedagogical life. Extrinsic incentives such as certificates and career opportunities are present and even mandatory in some countries, but often take a back seat to intrinsic motivation. To increase participation, professional development should be practical, relevant and flexible to meet the challenges of the teaching profession.

4.2.14 Participation

With regard to the possibility of participation, the respondents expressed differentiated views on top-down and bottom-up approaches in continuous professional development training. While some acknowledge the need for top-down governance to ensure quality standards and respond to policy requirements, others stress the importance of bottom-up initiatives based on the individual needs of teachers.

4.2.14.1 Bottom-up approaches

Bottom-up approaches that focus on individual interests and specific needs with regard to training needs (personal or with regard to the pupils), the free choice of training events, personal responsibility and initiative of teachers are considered crucial for the motivation and success of training courses. An agreement with the management of the educational institution is nevertheless necessary after the independent finding of suitable continuous professional development courses in which there is an interest in participating [R248: 660-679].

On the one hand, teachers select training courses based on their own interests and deficits by title and training description in order to learn something new, develop their skills, diversify their teaching and learn things that were neglected in their training [E106: 95-105, 149-153, 243-255] [K115: 11]. On the other hand, continuous professional development courses are selected primarily according to the specific needs of their own pupils (e.g. digital tools, learning difficulties) and the problems that arise in everyday

pedagogical life, and personal development is only in second place [T214: 397-401, 405] [T237: 34] [M229:40]. Continuous professional development training is often geared to the needs of the schools and the teachers [C108: 34].

4.2.14.2 Top-Down Approaches

Top-down approaches are considered necessary by several respondents to ensure overarching educational goals and quality standards. Continuous professional development training concepts are sometimes centrally specified by the ministers; this can affect certain training programmes both in terms of content and structure [X251: 354, 373]. School leaders play an important role in implementing top-down policies. They are responsible for monitoring the competencies of their teachers and ensuring that they have the necessary qualifications to teach [L206: 174]. For example, teachers are specifically approached by the management of the educational institution in the context of staff appraisals in order to train certain areas, often with regard to school development goals or to cover future retirements, or to remind them of the workload of the training courses to be attended [T214: 206-211, 216] [Y164: 210-216] [E106: 503-505]. Schools often approach training coordinators to request specific training on specific topics such as co-teaching. The school management is often involved in this and attempts are made to take into account the needs of the teachers [F238: 657-667]. In-school training tailored to the specific needs of a staff can be particularly effective [X251: 152]. Political agendas and decisions, such as the focus on inclusion, influence training needs in this area [L206: 323-324]. However, ministerial and regional requirements can also lead to restrictions on the autonomy of schools in the selection of relevant training courses. Since the top-down imposition of training topics often does not correspond to the needs of teachers from the point of view of the experts surveyed, this can lead to frustration. However, strategic training programmes can also have a combination and be based on the needs of schools and teachers as well as dictated by education policy [Y104: 33].

4.2.14.3 Challenges and Areas of Tension

The interviews also show that there is often a tension between bottom-up interests and top-down requirements. Capacity bottlenecks often occur in the state system when good training meets with high demand. It is criticized that the ministry emphasizes the

importance of continuous professional development training, but is not prepared to accept the resulting loss of lessons [X251: 308, 160]. It is also mentioned that a needs survey of teachers would be critical for the system, as it may not be possible to meet all wishes [X251: 366-367]. It is criticized that teachers often complain about the top-down, irrelevant topics, repetitions, outdated content, and a "one-size-fits-all" approach that has no practical value [J165:12, 27, 33-35]. In the planning of continuous professional development training, attempts are sometimes made to reconcile the wishes of the participants with the specifications for the training programme, the budget and the pool of suitable trainers or moderators, taking into account both the needs of the teachers and the overarching goals [Y215: 13, 20]. There are also attempts to link the requirements of the Ministry of Education with the region-specific needs of the schools [X251: 50-51]. The integration of continuous professional development training into school development is seen as promising. It also stresses that schools should develop their own strategic plans to identify training needs [L206:348].

4.2.14.4 Conclusion

In summary, it can be said that the experts surveyed experience a mixture of bottom-up and top-down approaches. While the self-motivation and needs of teachers are seen as the driving force for participation in continuous professional development training, institutional requirements and school development goals also play an important role. An approach that integrates both perspectives is often seen as ideal for ensuring both relevance to practice and overarching educational goals. Challenges arise from the coordination of these approaches, especially with regard to the consideration of local conditions and the motivation of teachers. The effectiveness of training is significantly influenced by how well these two directions are reconciled.

4.2.15 Competence of the trainers or moderators

The competence of the trainers or moderators in training courses is considered by the experts surveyed to be a decisive factor for the quality and success of the events. Requirements placed on trainers or moderators of training courses for teachers are professional expertise and practical relevance, didactic skills, commitment and reliability, as well as adaptability and empathy. Trainers or moderators should not only

have strong theoretical knowledge, but also understand the realities of educational practice and be able to apply content directly to the professional context of the participants [L152: 146-150] [J165: 16] [Y164: 355-356]. The ability to combine theory and practice is perceived as crucial for the relevance and usefulness of the training [R215: 21] [Y164: 518, 525]. An approach that is too theory-heavy is criticized, as teachers want practical examples and the opportunity to discuss their experiences [L152: 166-168] [M229: 23] [T237: 20, 30]. The ability to connect with participants and create an interactive learning environment is of great importance [L152: 128, 148]. Trainers or moderators should be able to respond to the participants and maintain a certain structure [L152: 132]. Interactive and engaging formats that encourage dialogue, collaboration, and reflection are preferred over passive presentations [J165:17] [K115:53] [Y164:518, 523-524]. The opportunity to work in groups, work on case studies or engage in peer exchange is appreciated [E205: 8] [J165: 17]. The willingness of the trainers or moderators to invest time in preparation and to work for a good event is considered important [L152: 130]. Reliability is also a decisive factor, especially when training planners have to rely on the event running smoothly even without their constant presence [L152: 150, 154]. Trainers or moderators should be flexible and able to perceive the atmosphere of the group in order to respond to the needs of the participants [K115: 53]. Empathy and the ability to deal with different motivations and challenges of participants are especially important when participation is mandatory [R215:35].

4.2.15.1 Effects on participant satisfaction

The satisfaction of the participants depends heavily on the quality of the trainers or moderators. If they have the aforementioned competencies, this leads to a positive learning experience and a higher motivation to put what they have learned into practice [L152: 222] [Y164: 495, 500]. One example of a successful training mentioned by one interviewee was an event where participants were able to create podcasts themselves and receive technical support from experienced journalists. The enthusiasm was so great that the participants worked longer and continued to exchange ideas afterwards [L152: 198-220]. One interviewee tells us that training courses in NRW (Germany) are often led by two trainers or moderators who share the tasks in order to ensure technical support and content-related supervision at the same time [X251: 103, 117]. It is criticized that

some trainers or moderators are too theory-heavy and have no real experience in the classroom, which reduces the relevance of the training [T237: 30]. The lack of ability to respond to the needs of the participants or to create an interactive environment is also criticized. Another point of criticism is that trainers or moderators sometimes only listen to certain people, which is perceived as a waste of time [K115: 53].

4.2.15.2 Role of training planning in the selection of trainers

According to the experts surveyed, training coordinators attach great importance to the selection of qualified trainers or moderators. They make sure that they are not only technically competent, but also have the necessary didactic and social skills [J165: 37] [L152: 128, 146-150]. It is emphasized that good communication and coordination with the trainers or moderators before the event are crucial to ensure the success of the training [L152: 76, 100]. One respondent describes how he uses his "gut feeling" when selecting trainers or moderators and makes sure that they are "not grumps" and are willing to invest time [L152: 128, 130].

4.2.15.3 Conclusion

In summary, it can be said that the competence of the trainers or moderators is a multi-layered construct that goes beyond pure specialist knowledge and is decisive for the acceptance and success of continuous professional development training courses for teachers. Technical expertise, practical relevance, didactic skills, commitment, reliability, adaptability and empathy were mentioned by the experts surveyed in connection with the competence of trainers and moderators.

4.2.16 Satisfaction with training

Satisfaction with professional development is influenced by several factors, including the relevance of the content and the possibilities for practical application, as well as the quality of the trainers or moderators.

4.2.16.1 Aspects of satisfaction

A central aspect of satisfaction is the relevance and practical applicability of training content [J165: 15] [X251: 168]. Teachers want content that is directly applicable to their everyday work and offers concrete tools, strategies or insights [J165: 15] [T214: 288].

Continuous professional development is considered useful if it helps to remedy personal deficits or opens up new teaching opportunities [E106: 149, 243-244]. Opportunities for professional development that enable immediate application of what has been learned in the classroom and give new impetus to pupils are particularly valued [E106: 137-138, 152]. The opportunity to contribute personal experiences and examples from practice and to link them with theoretical knowledge increases effectiveness and satisfaction [F238: 403-405]. The quality of the trainers or moderators plays a decisive role here. The trainers or moderators should be experienced, competent and able to build a good relationship with the participants of the training [L152: 128-130, 146]. They must be able to respond flexibly to the needs of the group and have in-depth specialist knowledge that they can impart in a practical way. An enthusiastic style of presentation is perceived positively [F238: 848-851] [J165: 16] [E106: 433] [T214: 316].

Interaction and exchange are other important factors for training satisfaction. Face-to-face events are often preferred because they offer better contact with the trainers or moderators and opportunities for exchange and networking [L152: 386-388] [T214: 104]. The direct exchange with colleagues about experiences and ideas is considered very profitable [E106: 88] [T214: 104]. The opportunity to work and reflect in small groups also contributes to satisfaction [R248: 537].

The general conditions also influence satisfaction. A pleasant working atmosphere, the provision of catering such as coffee and snacks, which is particularly appreciated when teachers come directly from the school, as well as suitable premises influence satisfaction as they increase comfort and promote informal learning [J165: 10] [L152: 342-346, 350-352] [X251: 225]. The duration of the training should be appropriate to the content, with preference for both shorter online formats (approx. 1.5-2 hours) and longer face-to-face events (4-6 hours) [E106: 111, 159] [F238: 313, 319] [T214: 109, 115]. Multi-day events with overnight stays are considered to be particularly effective for intensive work and team building, but are also associated with higher costs [E205: 8] [J165: 8] [Q105: 14].

In order to inquire about the satisfaction of the participants, feedback is usually obtained by means of anonymous questionnaires at the end of the training courses [E205: 18] [J165: 41] [Q206: 319]. The results of the feedback are used to adapt and improve future

offerings [C108:42] [J165:37]. The desire for follow-up events and the possibility of evaluating the effectiveness of the training in everyday life are expressed [J165: 27] [Q206: 320].

4.2.16.2 Future needs and challenges

Current needs include topics such as digitalization, artificial intelligence, inclusion, dealing with pupils with special needs and mental health [J165: 25, 39] [M229: 23] [Q206: 434-436] [R215: 39-40]. It emphasizes that training should prepare teachers for the rapidly changing world and help them teach new technologies and soft skills [Q105: 27] [T237: 14]. A major challenge is to find the balance between national educational goals and the individual needs of teachers [J165: 29]. Another problem is the lack of time and the high workload of teachers, which makes it difficult to participate in training courses, especially if they take place outside regular working hours [J165: 12] [R248: 243-244] [T214: 243-244]. In addition, many find professional development outside of school hours to be an additional burden [J165: 8] [R248: 434]. The difficulty of organizing substitutions when teachers participate in further training is also problematic [Q206: 232-233] [F238: 468-469] [X251: 160]. Bureaucratic hurdles and a lack of flexibility in the system also lead to dissatisfaction. Long registration deadlines that fall during the holidays or complicated registration systems are perceived as a hindrance [L152: 264-266, 280-282]. The relevance of training content is also a point of criticism. Continuous professional development is often perceived as too theoretical, outdated or not tailored to the specific needs of teachers. A "one-size-fits-all" approach is criticized for failing to take into account the heterogeneity of classes and schools [J165:27] [T237:20, 30]. While online formats are valued for their flexibility and travel time savings, they are often perceived as less interactive and tiring [E205:8] [F238:209] [K115:25] [R248:579-580]. Another obstacle is the lack of financial resources. This applies both to the costs of training itself and to travel and accommodation costs, in particular for teachers on islands or in rural areas [C108: 24] [E205: 10] [K115: 29] [R248: 413].

4.2.16.3 Conclusion

In summary, satisfaction with professional training depends to a large extent on a combination of relevant, practical content, competent trainers or moderators, interactive

formats and supportive framework conditions. Intrinsic motivation is also a driving force for satisfaction with further training. The focus of complaints is often on lack of time, irrelevant content and bureaucratic hurdles. To maximize satisfaction, it is crucial to be flexible in professional development, to take the needs of teachers seriously, and to establish a culture of continuous development that takes into account both individual and school-wide goals.

4.2.17 Job satisfaction

The interviewees expressed their job satisfaction in a variety of ways, with participation in continuing vocational training often cited as an important factor in increasing this satisfaction. Further training helps to create new aspects and increased motivation in the profession and confirms educators in their work; it creates a good feeling when they are confirmed by their participation in the training that they are already doing many things right [E106: 329-334] [T214: 354-355].

According to the experts surveyed, job satisfaction is significantly influenced by the relevance and practicality of further training courses. It is emphasized that professional development corresponds directly to daily pedagogical practice; if this is positive, educators feel happy and can continue to provide education [E205:12]. Participation in training courses is perceived as meaningful and positive for job satisfaction if educators can reduce their own deficits and gain new insights that they can apply in the classroom. As a result, they become even better educators with new energy and knowledge, who teach differently, with a focus on children's satisfaction and happiness [E106: 149-153, 318] [R248: 493-500] [M229:12]. One interviewee mentions in the interview that he or she wants to be motivated and happy and convey content that students enjoy and that encourages them to continue learning; for this it is necessary that it develops itself in some areas, such as new technological developments [K115: 19, 21]. Another interviewee sees training as a contribution to job satisfaction, as it enables them to develop further and try out new things, which they find very nice and important [T214: 349-350]. Professional development can lead to satisfaction with a goal in mind, such as taking on more responsibility at work [T237: 18]. Continuing education can play a crucial

role in supporting educators' professional lives and job satisfaction by providing accessible knowledge and support (Y215: 293, 296-297).

Overall, it can be seen that job satisfaction for the experts surveyed is closely linked to the feeling of personal and professional development and the relevance of the content learned for their own practice.

4.2.18 Resources

The experts surveyed commented on a wide range of resources in continuous professional development. Financial aspects such as costs for trainers or moderators of training events, materials, catering and travel expenses play a decisive role, especially in the accessibility and attractiveness of offers. Time resources, both for participants and for organizers of training events, are highlighted as a critical factor, with compatibility with everyday work and personal obligations often being a challenge. Infrastructural resources, including suitable venues and digital tools, influence the quality and effectiveness of training. The availability of qualified substitute teachers is cited as a major incentive to participate, as this allows teachers to be released from work.

4.2.18.1 Financial Resources

Financial resources are considered by the experts surveyed to be a decisive factor for the participation and quality of training courses. High costs, which have to be borne by participating trainers themselves, represent a significant obstacle [M229: 18] [T237: 26]. Expensive training courses are not chosen and Erasmus programmes are preferred, as high travel costs for continuous professional development training participation cannot be financed by oneself [T237: 26] [M229: 28]. However, costs for further training, including the payment of trainers or moderators and materials, are also an important aspect from the organizational side. Costs for external conference venues require a mixed calculation and sometimes cost-neutral locations such as schools have to be used in order to meet the overall budget [X251: 200- 203]. The geographical location of venues influences the travel expenses that need to be reimbursed, which has an impact on the overall calculation of training [X251:204, 208]. Several experts interviewed point to budget constraints. It mentions that there is no additional funding for the organization of training, which is a problem [Y104:25]. There is also a complaint that too much is being saved on

training in Austria and it is pointed out that quality has its price [L152: 240-242, 408-410]. In Denmark, schools have to bear the cost of diplomas, which is often an obstacle [F238: 470, 475]. State teacher training courses are almost cost-neutral for schools in NRW (Germany), as only the travel costs of the trainers or moderators have to be covered [Y164: 233].

4.2.18.2 Time Resources

The availability of time is a recurring theme and is cited as one of the biggest challenges for participation in training [T237: 16] [M229: 18]. Teachers often do not have enough time to participate in training courses if they take place outside regular working hours [M229: 18] [T237: 16] [R248: 398]. The high workload of teachers means that participation in training is difficult to integrate into everyday life, as there is often no energy left for participation in training courses in the late afternoon, even if they are free of charge, and the organisation of substitute teachers by the management of the educational institution for the release of teachers participating in training courses is a problem [R248: 434, 496] [Y164: 93-94] [F238: 468-469] [Y164: 92] [F238: 484] [L206: 96].

4.2.18.3 Human Resources

The availability and quality of staff, both trainers and moderators of training events and substitute teachers, is of great importance. The availability of substitute teachers has a significant influence on the possibility of participating in continuous professional development training courses through the release of teachers [F238: 527-531]. The competence, reliability and ability of the trainer or moderator to establish contact with the participants and to respond to their needs are crucial for the success of a training course [L152: 130, 146-150]. It is emphasized that trainers or moderators who live for their topic and have practical experience are particularly convincing, but quality has its price [Y164: 316] [L152: 408-410].

4.2.18.4 Infrastructural Resources

Infrastructure plays an important role in the implementation and effectiveness of further training. The choice of venue depends on the goals, the target group and the budget. Schools and universities are named as suitable places [C108: 10] [M229: 30]. External locations such as museums or conference centers offer variety and can increase

attractiveness [M229: 30] [R248: 638, 647]. For online formats, digital platforms, stable internet connections, and functioning devices are essential [M229:4] [C108:6].

4.2.18.5 Conclusion

The analysis shows that resources play a multi-layered role in continuous professional development. Financial resources, the provision of time, an appropriate infrastructure and qualified staff are fundamental to the quality of the services and the satisfaction of the participating teachers. In particular, the compatibility of continuous professional development training with everyday work and the provision of substitute teachers are critical points that must be addressed in order to enable participation in continuous professional development training and to maximize the effectiveness of continuous professional development training measures.

4.3 Summary of the results of qualitative research

The report presents the results of a qualitative study conducted as part of the EU-co-funded FOOTT PRINTTS project, which examines the perception and evaluation of continuous professional development courses by teachers in six European partner countries (Austria, Germany, Poland, Denmark, Portugal, and Greece). Following a comprehensive literature review and a quantitative survey with over 5,000 questionnaires, guided, semi-standardized expert interviews were conducted. A total of 19 people participated, including teachers (micro level) and decision-makers in the field of teacher training (macro level). The interviews were conducted between June and September 2025, transcribed, and evaluated using MAXQDA. The analysis was carried out deductively using predefined categories such as format, duration, location, implementation, motivation, participation, competence of the trainers, satisfaction, and resources. All data was anonymized before evaluation.

The results show that the choice of training format plays a key role in acceptance and effectiveness. Face-to-face events are particularly valued for their interactive nature, personal exchange, and the opportunity for practical exercises. They promote networking, trust, and in-depth discussions, but involve greater organizational effort, travel time, and costs. Online formats offer flexibility and time savings, especially for teachers in remote regions, but they have limitations when it comes to complex topics and cooperation. They

require careful design with interactive elements to ensure motivation and cognitive activation. Disadvantages include technical hurdles, distractions, and “screen fatigue.” Hybrid formats are considered forward-looking because they combine the advantages of both approaches and allow for maximum flexibility. The choice of venue depends on the content, budget, and infrastructure. Schools are considered particularly suitable because they enable practical learning, while external locations such as museums or conference centers offer variety and inspiration. The duration of training courses should be adapted to the content and format. Online sessions are ideally limited to 1.5 to 4 hours, while face-to-face formats can take place over a whole day or several days in order to achieve lasting effects. Very short formats are criticized as being ineffective, while process-oriented approaches with longer time frames and trial phases are considered more effective.

The implementation of training content in the classroom requires practical relevance, concrete applicability, and support from school management and colleagues. Exchange and reflection are crucial, as is the quality of the design. A balanced mix of theory and practice, competent trainers, and interactive methods promote transfer. Trial phases during or after training are considered particularly valuable for sustainability, as are feedback loops for continuous improvement. Working with teaching materials should be practical, creativity-enhancing, and adaptable. Digital resources are becoming increasingly important, especially for collaborative work and the exchange of materials. Group discussions and informal exchanges are highlighted as essential for motivation and networking, with face-to-face formats offering clear advantages over online formats in this regard.

The motivation to participate in continuous professional development courses is predominantly intrinsic. Teachers strive for personal and professional development, practical solutions, and exchange. Extrinsic factors such as certificates and career opportunities play a greater role in some countries (e.g., Greece, Poland), but are generally of secondary importance. Participation takes place in a field of tension between bottom-up initiatives and top-down requirements. Having a choice of continuous professional development courses increases motivation. Institutional control is considered necessary. A combination of both is considered optimal.

The competence of the trainers is a key factor in the quality of continuous professional development. In addition to technical expertise, didactic skills, practical relevance, empathy, and flexibility are crucial. Participant satisfaction depends heavily on the relevance of the content, interactivity, and the general conditions. Obstacles such as lack of time, high costs, bureaucratic hurdles, and lack of practical relevance are frequently cited. Future needs relate to topics such as digitalization, AI, inclusion, and mental health.

Job satisfaction is positively influenced by successful continuous professional development, especially when it is practical, facilitates exchange, and is supported by school management. Financial, time-related, infrastructural, and human resources are crucial for the accessibility and quality of offerings. Budget constraints, lack of leave options, and inadequate infrastructure are key challenges.

Overall, the evaluation of the qualitative interviews shows that effective training must be practice-oriented, flexible, and interactive in order to promote motivation, satisfaction, and sustainable implementation. Hybrid formats, process-oriented approaches, and close integration of individual needs with institutional requirements are identified as key success factors.

5. Summary of all results from empirical research

The report on empirical research within the framework of the Erasmus+ project *FOOTT PRINTTS* aims to identify criteria for high-quality in-service training of teachers in Europe and to develop practice-oriented recommendations for action. The starting point is the observation that the initial training of teachers does not impart all the skills required for lifelong professional practice and that professional experience alone has only a limited influence on the quality of teaching and learning success (Kini & Podolsky, 2016; Papay & Kraft, 2015; Burroughs et al., 2019). Therefore, continuous professionalization through targeted training measures is considered central to quality assurance in the education system.

The research design is based on a sequential mixed-methods approach that combines a quantitative and a qualitative survey (Creswell, & Plano Clark, 2018). Following a comprehensive literature review and analysis (FOOTT PRINTTS, 2025), coordinated by the European Institute of Education and Social Policy (EIESP), a standardized questionnaire was developed that was used in all partner countries. The analysis takes into account the perspectives of educators (micro level), trainers or moderators (meso level) and decision-makers (macro level). The aim is to capture the perception of quality in the continuing education of educators from different perspectives and to include country-specific differences.

The quantitative survey was conducted between October 2024 and February 2025 and achieved a broad international distribution. A total of 7,875 people were contacted, of whom 5,171 completed the questionnaire in full. The average age of the respondents is 46 years, the average professional experience is 19 years. At the micro level, there is a clear dominance of female educators. The meso and macro levels are also represented by a majority of women among the survey participants, albeit with country-specific differences. The data also show that the educators surveyed by online survey in Portugal and Greece are on average older and have longer professional experience than their colleagues in Austria, Poland or Denmark who participated in the study.

The data analysis was carried out using descriptive statistics and exploratory factor analysis in order to identify key influencing factors for satisfaction with continuing

education. The aim was to condense the large number of variables collected into overarching factors and to investigate their effect on the perceived quality of continuing education. The results are intended to help align further training formats more closely with the needs of educators and to increase the effectiveness of further training measures.

In summary, the report shows that the quality of further training for educators is not determined solely by content, but by the interaction between different levels of the education system. The consideration of heterogeneity, the adaptation to different national contexts and the combination of theory and practice are crucial prerequisites for sustainable professionalization.

The quantitative results form the basis for the subsequent qualitative research, which was carried out from June 2025 onwards and provides in-depth insights into the perceptions and experiences of the actors involved. The qualitative research, which is based on guideline-based expert interviews, complements these findings with in-depth insights into the perceptions and experiences of the actors. The results show that face-to-face formats are preferred especially for interactive and practice-oriented topics, as they enable exchange, networking and relationship work. Online formats, on the other hand, are valued for their flexibility and accessibility, but reach their limits when it comes to complex or communication-intensive content. Hybrid models that combine both training formats are considered by many respondents to be forward-looking. In addition, it was worked out that the duration and timing of training courses are decisive for their acceptance. While face-to-face events can also take place over several days, online formats should be structured more briefly. External venues such as conference centres or universities are described as conducive to intensive exchange and professional deepening, while internal school formats offer practical relevance and cost neutrality.

In summary, it can be stated that the empirical results underline the necessity of a differentiated and multidimensional view of teacher training. Effectiveness arises from the combination of content quality, methodological diversity and organizational fit, whereby the different perspectives of educators, trainers or moderators of training courses and decision-makers must be taken into account equally. The results make it clear that sustainable professionalization of educators can only be achieved if training courses are designed to be practice-oriented, promote exchange between participants

and take into account both the individual needs of educators and institutional and political framework conditions. The combination of quantitative and qualitative findings shows that the effectiveness of training depends essentially on the balance between flexibility, interactivity and organizational fit, and that hybrid approaches are increasingly perceived as the optimal solution.

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