# EXCIITE – A European Project for an Inclusive Teacher Practice

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**ABSTRACT**

EXCIITE aimed to build a flexible system for teacher training, with a strong focus on creativity, inclusion, innovation, and digital literacy. By creating a Hub suitable for supporting in-service teacher training, we aim to enhance their continuing professional development in these challenging areas of competence and prepare the ground for a renewed initial teacher training curriculum. The project is committed to making learning more learner-centred, inclusive, and stimulating through digital technology's meaningful, creative, and interactive use.

In the present paper, we introduce the project structure and goals, including the tools created and the results of the collection of good practices. These good practices include research, methodology and inspiring tools, which have been collected and shared through the Hub in all project languages. As this is primarily an educational development project, the presentation aims to show the tools developed.

## INTRODUCTION

Recent European research underscores the need for targeted professional development in digital pedagogy and inclusive teaching practices. This research also highlights the importance of structured frameworks, providing a clear roadmap for professional development. The 2023 Education and Training Monitor further supports this, noting that teachers are increasingly seeking training, particularly following the pandemic. In response, initiatives such as the Erasmus+ Teacher Academies are being developed to facilitate cross-border professional development and to support teachers in acquiring skills for an evolving educational landscape. Globally, UNESCO and Eurydice stress the importance of these structured frameworks that address digital literacy, cultural competence, and a sustainable, progressive approach to skill-building across diverse educational systems. In light of these findings, supporting educators in advancing inclusive, digital, and creatively stimulating learning environments has become crucial. Current educational research highlights that creativity within teaching fosters essential skills in students, such as critical thinking and problem-solving, which are vital in a complex, rapidly changing world (European Commission, 2023; UNESCO, 2022). To create such environments, teachers must be equipped with innovative pedagogical strategies that encourage collaboration, inquiry-based learning, and creative engagement with content. Professional development programs prioritising creativity, digital literacy, and cultural responsiveness can enable teachers to design engaging and conducive learning spaces for active student participation. In doing so, teachers can cultivate adaptive, creative thinking in students, thereby preparing them for future academic and professional challenges within a diverse, technology-rich context.

## LITERATURE REVIEW

Castoldi (2010) describes teaching as "an educational relationship aimed at supporting cultural heritage learning within an institutional context" (p. 15). This action is inherently complex and extends beyond mere spontaneity, requiring instead intentional and process-driven approaches (Cerri, 2012). Teaching unfolds through three phases: the pre-active phase, which involves designing the teaching action; the active phase, which entails executing the planned action; and the post-active phase, focused on evaluating and assessing the effectiveness of the action. Altet (2002) characterises teaching as a co-action—a joint activity based on reciprocal interaction between teacher and student, who, while occupying distinct roles, engage collaboratively around a shared knowledge objective. Thus, the professional teacher can adeptly navigate and manage these complex teaching situations (Viganò, 2002).

Teacher competence is shaped by integrating schemas, beliefs, attitudes, and knowledge (Pellerey, 2004, p. 12). Teaching practice involves four core types of knowledge: subject matter knowledge, pedagogical knowledge, pedagogical content knowledge, and experiential knowledge (Altet, 2006). Therefore, supporting teachers' professional development requires fostering changes in these foundational frames of reference, encompassing knowledge, beliefs, attitudes, and perspectives that inform their instructional practices.

Kennedy (2005) identifies nine models of in-service teacher professional development, which exist on a continuum between two contrasting approaches: a transmissive approach, aimed at equipping teachers with specific knowledge and tools to address institutional

134

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expectations and practical challenges, and a transformative approach, which seeks to engage teachers in reflective, transformative processes. The transmissive approach primarily focuses on equipping teachers to respond to external demands but has limited influence on values and attitudes. Conversely, the transformative approach encourages teachers to adopt a reflective, critical, and proactive stance toward their teaching practices.

Effective teacher development guides educators toward necessary changes for professional growth. Shulman (1987) notes that teachers' actions are shaped by their beliefs and conceptual frames regarding their profession. Consequently, professional learning is most impactful when it encourages teachers to adopt an inquiry-based approach toward their practices, fostering an ongoing process of self-examination and constructive reflection on their underlying beliefs, attitudes, routines, and knowledge (Taylor, 2015). A sustained reflective stance plays a crucial role in supporting this reflective process. Schon (1983) describes teachers as reflective practitioners who continuously interpret and address challenges within their practice while reviewing and refining their belief systems, knowledge, and attitudes. Mezirow (1997) further emphasises the transformational potential of reflexivity, viewing it as a mechanism that enables teachers to adapt, evolve, and restructure their frames of reference—beliefs, knowledge, and attitudes—thereby enhancing their effectiveness in new teaching contexts.

Recent investigations into teachers' engagement with educational research reveal a complex interplay of personal and contextual factors influencing sustained participation in research activities. Kowalczuk-Walędziak, Ion, and Crespo (2024) identify vital motivators such as intrinsic professional growth, the perceived applicability of research findings to classroom practices, and institutional support as significant enablers of research engagement. Complementing this, Kowalczuk-Walędziak and Ion (2024) highlight, that collaborative networks, peer support, and access to resources critically enhance teachers' abilities to integrate research into pedagogical practices effectively. These findings underscore the importance of fostering institutional environments that prioritise mentorship, peer collaboration, and the practical application of research, as these factors facilitate a sustainable culture of research engagement within the teaching profession. On the potential of the teachers' network, the eTwinning program, officially launched in January 2005, is the most widespread and established experience of transnational teacher collaboration and school community. Many studies have been conducted on the impact of teachers' professionalism in participation in the eTwinning program, especially regarding technological skills. A recent European monitoring report (2023) identified that the outcomes for pre-service teachers are the same as for all teachers engaged in the programme: *"internationalisation, competence development, new knowledge of pedagogical methods, peer support and community engagement"*.

## AIMS, RESEARCH QUESTIONS AND HYPOTHESES

The aim of the project research was to:

Develop Training Modules: Create flexible and personalised learning paths for teachers using a self-assessment tool to identify their training needs.

Establish a Training Hub: Build a web repository of multilingual learning resources to enhance teachers' creativity, innovation, self-regulation, and appreciation of diversity and social inclusion.
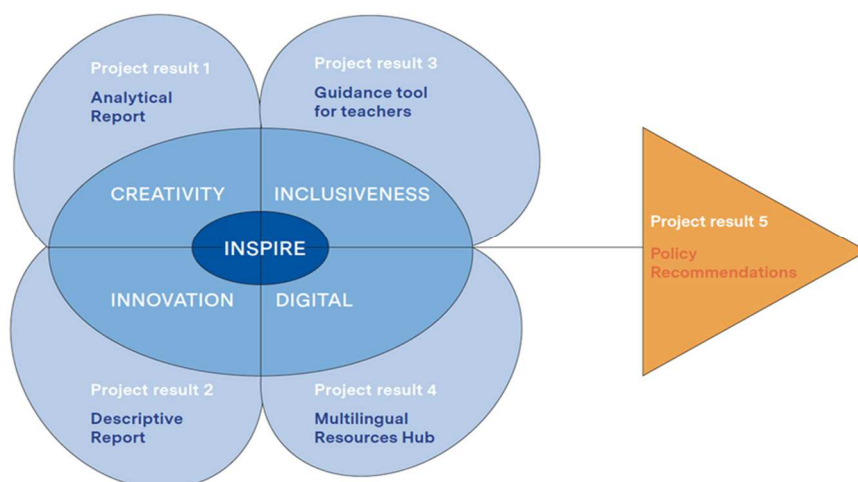
Form an Educational Alliance: Create a network of teacher education institutions to collaborate transnationally and share resources and best practices in in-service teacher education.

In this contribution, the goal is to present the project's developments by highlighting its key products.

## METHODS

Throughout the project, we employed a variety of methods. Initially, we constructed a model based on the project's aims. As we created a model (see Fig. 1.), this study examines the role of a self-guided training platform developed within a European project to advance teachers' professional growth through reflection-driven professional learning.

**Figure 1**
EXCIITE model of project development



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We built a standard, concise and comprehensive definition of each core element (inclusion, creativity, digital, innovation). Afterwards, partners collected 35 good practices and intervention models for teacher training, summarising existing knowledge and good practices in teacher training (project result -PR1). To accommodate the complexity of the data and pursue the intended aim, the researchers opted to analyse the practices from a dual perspective: directly, by surveying and describing elements attributable to the four core elements; indirectly, with the identification of cross-cutting and recurring elements of training practices that we defined as Good Practice Elements (GPEs). For the project result - PR 2, we conducted 8 focus group interviews, inviting participants to share their perspectives on the school system and inclusive practices in their respective countries. Focus groups were conducted in Italy, Spain, Sweden, and Hungary, with two groups per country: one for primary teachers and one for first-grade secondary teachers. Participants in focus group interviews are valued as experts (Byron, 1995), and they have the unique opportunity to work collaboratively with researchers and interact with other participants (Gibbs, 1997). This collaborative nature of focus groups makes them feel included and part of a team. They also gain the experience of speaking in public and articulating their views (Panyan et al., 1997) cited by (Williams & Katz, 2001).

Drawing on the reference literature and the Focus group analysis results (Krueger, Casey, 2015), we also conducted an exploratory survey with 250 teachers of all school levels in the five countries partners in the EXCIITE to deeply identify teachers' needs.

From the analysis of good practices in teacher education (PR1) and the analysis of teachers' needs in the four areas (PR2), we developed the Based on these previous works; we developed a «guidance tool» for Self-assessment and Learning Paths to help teachers recognize their training needs (Project result—PR 3). We focused on teachers' needs in our four main areas.

In the end, we co-built a multilingual hub with educational resources accessible to primary and lower secondary school teachers in five languages (English, Italian, Catalan, Swedish, and Hungarian), offering both theoretical information and practical resources (Project result - PR 4). Partners agreed on criteria for searching, reviewing, and selecting resources to make a solid contribution to identifying resources valuable to developing effective professional educational pathways. We then applied the same criteria for resource production by partners.

The last project result, EXCIITE's Recommendations for the main policy challenges (PR5), distils the lessons learned during the project to guide future EU and national policies on teacher training. The aim is to enhance policy-making through a bottom-up approach, strengthening the teaching profession to meet future challenges.

## RESULTS

In a collaborative effort, the project group has built an open online platform for teachers' training. It serves as a repository for materials enhancing teachers' skills and knowledge and a virtual meeting place where teachers can share practices and experiences with colleagues.

As the first project result, we created a theoretical framework. We identified some critical aspects for every core element called "Good Practice Elements (GPEs)". We have focused on seven good practice elements (GPE) for every area we have examined. Here are the concepts and how we understood them.

In accordance with the Index for inclusion (Both, Ainscow, 2000), inclusion in an educational environment implies the reduction of barriers to learning and participation for any student. This can be achieved by building collaborative relationships and improving the learning and teaching environment; encouraging a view of learning in which children and young people are actively involved, integrating what they are taught with their own experience; making schools supportive and stimulating places for both staff and students; building communities which encourage, support and value their achievements. In Tab. 1. we explain the core elements of Inclusion.

**Table 1**
Core Element *Inclusion*

| Good Practice Elements | Brief description |
| --- | --- |
| *Modifying spaces* | Modifying spaces to make them more accessible and inclusive |
| *Making classroom welcoming* | Making schools supportive and stimulating places for adults and children: welcoming uniqueness |
| *Collaborative relationships* | Building collaborative relationships to promote communities of learning and practice |
| *Collective involvement* | Encouraging a vision of learning in which all actors are involved and their views are welcomed and valued |
| *Encourage children's agency* | Encouraging a vision of learning in which children's point of view, awareness, initiative, intentionality to learn and participate are welcomed and valued |
| *Organisational aspects* | Organisational and system structural aspects that promote inclusion |
| *Shaping a democratic environment* | Promoting inclusive education as a value |

According to Vygotsky (1972), creativity is an activity that generates something new, whether material or immaterial, by combining and adapting known elements to achieve a specific goal. Creativity is characterised by a deliberate exploration of ideas, marked by curiosity, playfulness, imagination, a sense of self-efficacy, tolerance for ambiguity, and persistence (Sala et al., 2020). Creative personalities often display autonomy

(as critical disposition to produce new ideas and artefacts, introspection as a reflective attitude, curiosity as problem seeking and finding (Cardarello, 2016, p. 22), flexibility, originality, and metaphorical thinking but also persistence, discipline, ability to collaborate and to take risks (Sala et al., 2020). In Table 2. we explain the core element of Creativity.

**Table 2**
Core Element *Creativity*

| Good Practice Elements | Brief description |
| --- | --- |
| *Connections across professions* | Enhancing creativity through forging connections among different professionals |
| *Teachers' emotional languages* | Enhancing creativity through teachers' reflection through experimentation with multiple modalities and emotional languages |
| *Sharing educational materials* | Exercising creativity through designing and sharing educational material |
| *Multiple languages and modalities* | Enhancing creativity by connecting pupils with multiple languages and learning with multimodalities |
| *Use of materials* | Exercising creativity through the innovative use of materials |
| *Learning environment* | Promoting autonomy, curiosity and reflexivity with innovative learning environments |
| *Changing teaching methods* | Fostering creativity by changing teaching methods |

By international practice (OECD/Eurostat, 2018), innovation is defined as a new or improved educational practice, teaching and learning method, or organisational structure (or a combination thereof) that aims to promote desirable changes or introduce new procedures to address perceived needs (Cardarello, 2014). This encompasses educational services that implement significantly altered processes for delivering their services, such as new pedagogies or combinations of pedagogies, including e-learning services. It also includes new ways of organising activities, such as changing how teachers collaborate, how students are grouped, and how other aspects of learning are managed. Additionally, it involves establishing new relationships with stakeholders, such as innovative forms of communication with students and parents and new partnerships with local public institutions and both profit and non-profit organisations. In Table 3. we explain the core elements of Innovation.

**Table 3**
Core Element *Innovation*

| Good Practice Elements | Brief description |
| --- | --- |
| *New topics* | New teaching topics, to bring real life into the classroom |
| *New ways of organising educational activities* | New ways of organising educational activities, introducing tools and reshaping the learning environment to meet students' needs |
| *New methods* | New or rethought teaching practices, new approaches/methods of teaching-learning |
| *Changes in school organisation* | Changes in organisational structures within the school to meet student needs |
| *Relationship with colleagues* | New ways of designing activities and teaching together with colleagues to meet student needs |
| *Formal learning in informal setting* | Carry out formal educational processes changing the organisational structure of the school and involving educational agencies |
| *New partnerships* | Forging new partnerships between school and community |

Digital competence is the set of skills, knowledge and attitudes to enable the confident, creative and critical use of technologies and systems in an increasingly digital world. These skills have to enable people to be confident digital citizens, to interact and collaborate digitally, to produce work digitally, and to be confident in handling data. In short, to be digitally competent people have to (Carretero, Vuorikari & Punie, 2017) be literate in information and data management that implies the capacity to search, evaluate and manage information and digital content; We must know how to communicate and collaborate using digital technologies; Create, develop, re-elaborate and integrate digital content; We must possess knowledge on security and devices protection; We have to be able to solve technical problems. In Table 4. we explain the core elements of Digital.

**Table 4**
Core Element *Digital*

| Good Practice Elements | Brief description |
| --- | --- |
| *Self-assessment & Document evidence* | Use of ePortfolios, eBadges and other digital storage tools to document evidence of learning outcomes and self-assessment of teacher's competences as a strategy to develop awareness of emerging learning needs |
| *Online co-designing* | Joint use of common technology platform to co-design innovative learning programmes, including sharing lessons on common platform, in general online collaboration among teachers |
| *Intercultural Learning through ICT* | Use of digital platforms to support intercultural learning experiences (Virtual Exchange, virtual mobility, etc.) involving teachers and learners from different countries |

| *Production of and with multimedia resources* | Supporting the creation of multimedia resources by capturing contents through different technologies and students' activities |
|---|---|
| *Critical skills for using digital technology* | Use of digital technology to develop critical digital skills for teachers and students |
| *Digital resources that provides remote access to content and software* | Learners' access to remote teachers, digital resources or to equipment not available locally |
| *Digital game-based learning where students collaborate with other players* | Digital game-based learning, particularly with multiple remote players |

We used to analyse good teacher training practices and teachers' training needs based on these seven good practice elements (GPE) for every area we have examined and, ultimately, to categorise educational resources for teacher training. We investigate teachers' training needs and beliefs on EXCIITE core elements and GPEs through focus groups and surveys.

Overall, what emerges is the profile of teachers interested in professional development, which is still strictly linked to disciplinary didactics. Diverse profiles and opinions on inclusion and creativity are based mostly on differences between countries and school systems. After the pandemic, teachers are more conscious of the need to use mixed tools and methodologies, even using technologies and platforms for shared work at school.

Based on the outcomes of the first action phases, the partnership constructed a tool for teachers to self-assess their professionalism regarding the four thematic areas. Specifically, a self-assessment questionnaire comprised 21 sections: one for each GPE. For each GPE, teachers are asked to self-assess, on a 4-level Likert scale, whether they know about it and consider themselves capable of acting on it.

In defining GPEs, we have used the examples extrapolated from good training practices (PR1). This is an example (see Table 5.):

**Table 5**
Example of Guidance Tool items and questions

| **Inclusion** | |
|---|---|
| Modifying spaces | Modifying spaces to make them more accessible and inclusive |

| | |
|---|---|
| Inclusion can be supported and encouraged through the design or redesign of spaces, meant as places of learning and relationship. When designing new or existing spaces, the entire school community can be involved in a dialogue involving different points of view. | Examples:<br>• transforming spaces to have them accessible and safe for all, also using ICT, starting from emergent children's needs;<br>• redesigning spaces through projects to sustain the innovative idea of school as a place where the environment has an educational value, redesigning them;<br>• creating new spaces in the school where children, teachers and artists can collaborate together. |

*Questions:*
I have knowledge about how to modify learning spaces to make them more inclusive.
1☐ 2☐ 3☐ 4☐
I can transform, redesign and create learning spaces to make them more inclusive.
1☐ 2☐ 3☐ 4☐

This scale allows us to understand teachers' self-perceived competence using the EXCIITE Framework. The questionnaire is available on the teacher training platform in English, Italian, Swedish, Spanish, Catalan, and Hungarian. Based on the scores collected from the questionnaire, the HUB recognizes the areas in which each teacher could improve the most and proposes tailored pathways.

Inspired by the data collected and the analysis of the first three phases, the partnership has built a multilingual hub suitable for supporting in-service teacher training. Teachers can find resources to deepen their knowledge of the EXCIITE project's four thematic areas on this online, open-access platform.

Partner designed or collected resources from available materials and resources for each GPE of the following types[1]:

Resources to guide understanding of content (Core concepts): This resource helps users gain a deeper theoretical knowledge of the inspiring topic in general or in one of its possible declinations. Scientific publications (papers, chapters, books) or university lessons/talks are included.

Resources displaying how these contents have been shaped into good practices (Inspiring tool): These resources can motivate teachers and educators to put the inspiring topic into practice in their own educational work, in the classroom, and at school. Guidelines (manuals, teaching instructions, guidance, ministerial-national document, European document, Erasmus products) are included.

Resources guide teachers in using content to plan and structure environments and activities in their professional context (Further ideas): These types of resources give suggestions or additional examples of how teachers can develop any topic in theory or practice. This category also includes relevant resources that refer to other websites (e.g., repositories or self-assessing digital tools).

After systematically collecting and selecting relevant resources, we ensured access to pilot users first, fostering a collaborative spirit. Between May and July 2024, we organised hub testing workshops with teachers (May- July 2024) in all partner countries. We aimed to assess the hub's functionality and technical quality, evaluate the usability and quality of the resources, and disseminate the project among teachers.

Finally, we have drafted Policy Recommendations to guide future initiatives and policies in teacher training and professional development. The resulting Roadmap provides suggestions for transforming teacher professional development into a transnational issue, accelerating innovation in European school systems at both the EU and national/regional levels, and inspiring a new era of teacher training.

## DISCUSSION

The hub is a multilingual collaborative platform because it has resources in English and all the languages of its exclusive partners. The HUB is also designed to accommodate spaces for sharing and exchange among educators, with the vision of building a European community of teachers dedicated to educational innovation in the future. This proposal addresses a need expressed by teachers in investigations conducted on professional needs.

Please find attached an example of a self-produced resource from a partner. The resource outline was produced by partners to guide the initial documentation of best practices in teacher education. This product focuses on how visual arts can be integrated into a course or classroom without any extra financial investment. The product is available translated into all Hub languages.

## CONCLUSION

By creating this asset for future teachers, we hope to contribute to improving creativity, inclusiveness, and equity in European schools and teaching professionals. As the four pillars of the project were inclusion, innovation, creativity, and digital, the most challenging perspective is continuing to work on inclusion from a European perspective. As in most countries, it exists in the level of understanding and legislation; we found it challenging to gather theoretical backgrounds; however, good practices and inspirational tools we gathered and uploaded into the Hub could help teachers in every aspect of their performance and pedagogical practice. We hope that in the future, the project's sustainability will be without any further questions, as evaluators mentioned during the project's final conference. By building it to the in-service teachers' training, we aim to keep expanding the Hub's effectiveness. We emphasised the importance of involving in-service and pre-service teachers, recognising their unique insights as we work towards establishing a Hub for all educational professionals. This article underscores our commitment to inclusivity when creating the Hub, making each educational professional feel valued by the initiative.

## ACKNOWLEDGEMENTS

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