

EDUCATION TRANSFER KNOWLEDGE 06.

Educational and technological framework
for development of professional
competences in in-school placement



Project Information

Project acronym: EKT

Project title: Education Knowledge Transfer

Agreement number: 612414-EPP-1-2019-1-ES-EPPKA2-KA

Authoring partner:

Carmen Fernández-Morante
Beatriz Cebreiro López
Milagros Trigo Miranda
Lorena Casal Otero
Francisco Mareque León (University of Santiago
de Compostela)

Date of preparation: April 2023

State of implementation: 100%

Output Information

Work Package 3: Set an educational and technological framework

Output 6. Title: Technological framework for development of professional competences in in-school placement (Final version-post pilot)

Disclaimer: The European Commission support to produce this publication does not constitute an endorsement of the contents which reflects the view only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Please cite as:

Fernández-Morante, C., Cebreiro, B. & Trigo, M. et al (2023). Technological framework for development of professional competences in in-school placement. Santiago de Compostela. University of Santiago de Compostela.

This is Output 6 of O27 in the EKT Output Series. All public outputs in the series are available from the project website: <https://ektproject.eu>

Table of contents

1. Introduction:	7
2. EKT Training Model:	7
2.1. <i>The European teacher in the 21st century. Framework of competences and teaching tasks</i>	8
2.2. <i>Main conclusions drawn from the study of the needs for improvement of the carried out in EKT project Work Package 2</i>	10
3. Key elements of the model	12
3.1. <i>Coordination and communication</i>	13
3.1.1. Coordination at organisational level:	13
3.1.2. Coordination at the pedagogical level:	13
3.2. <i>Individual student follow-up</i>	14
3.3. <i>Autonomous and reflective learning</i>	14
4. Protagonists-Agents. Profile and functions/roles	16
4.1. <i>Academic Coordinator</i>	16
4.2. <i>School Coordinator</i>	16
4.3. <i>Academic Mentor</i>	16
4.4. <i>School Mentor</i>	16
4.5. <i>Student Teacher</i>	16
5. EKT training sequence: stages	17
5.1. <i>Stages in the EKT methodology. Objectives, activities and learning tools</i>	19
STAGE 1.PREPARATION.....	19
STAGE 2.ARRIVAL AT THE SCHOOL.....	21
STAGE 3.INMERSION IN PRACTICE	22
STAGE 4.SUPERVISED PROFESSIONAL ACTION	23
STAGE 5.AUTONOMOUS TEACHING ACTIVITY	26
STAGE 6.RETROSPECTIVE ANALYSIS OF THE EXPERIENCE	27
5.2. <i>Tool for learning and reflection: EKT e-portfolio</i>	29
5.2.1. <i>Structure of the EKT e-portfolio</i>	30
5.2.2. <i>Organisation and meaning of the EKT e-portfolio instruments</i>	31
5.2.3. <i>EKT e-portfolio instruments</i>	33

6. The EKT Intelligent System as a support for the in school placement process	34
6.1. <i>EKT e-learning system architecture. User profiles, functions, digital tools and functionalities.</i>	<i>35</i>
6.2. EKT e-learning platform. Interface and main tools	41
6.2.1. EKT e-learning Platform Interface, Dashboard	42
6.2.2. EKT Platform Tools	45
6.2.3. Preliminary Training: Platform and Contents (SPOC)	46
6.2.4. E-portfolio	47
6.2.5. Documents: Cloud and Collaborative editor	47
6.2.6. Communication	48
6.2.7. Calendar	49
6.2.8. EKT Management tools	49
6.2.9. EKT Learning Analytics	50
7. Annexes	52
8. References	53

1. INTRODUCTION:

Meaning and structure of the document

Once the needs study has been carried out and the elements for improvement of the In-school placement have been defined, this report develops the pedagogical and technological framework that will drive their transformation and improvement. The document therefore seeks to respond to **three objectives**.

- Contextualise the EKT proposal in a shared vision of the model of teacher we want to train and the role of In-school placement in their initial training (contents sections 1 to 3)
- Define the Technological framework (user profiles, functionalities and tools) that should guide the design and development of the EKT e-learning system for In-school placement (contents section 6 and Annexes).
- To provide a flexible educational framework (objectives, sequence, instruments) which, based on the EKT technological system, allows the adaptation of In-school placement strategies of initial training institutions, European participants, innovation and testing of the system. (contents sections 4-5)

It therefore does not propose a fixed or single route to follow, but rather provides institutions and those responsible for European In-School placement with a framework (guidance and tools) on the basis of which the two mentors (academic and school) design and negotiate a personalised practice plan for each prospective teacher and implement it with the support of their educational communities.

The EKT educational framework does not constitute a fixed route for developing In-school placement in all initial training institutions in Europe. It provides a coherent and flexible framework on which to build and rethink the practice models and strategies of initial training institutions and the roles of their protagonists (mentors and future teachers).

The document consists of 6 contents sections. **The first part** (the first two sections) situates the proposal on the basis of the teacher model that we understand Europe currently requires and the conclusions drawn from the needs study carried out in WP 2 of the project for the improvement of In-School Placements (ISP). It provides a framework of reference teaching competences that allows academic and school mentors to determine together those competences and teaching tasks to be worked on during the In-school placement and to define from there the personalised practice plan for each student.

The second part of the framework aims to help the mentors and mentees participating in the pilot to carry out the enriched In-school placement experience that the EKT project will provide them (sections three to five). The keys to the model are therefore defined, the profiles, functions and roles in the internships of all of them, that is, what is expected of each of them in order to successfully develop the EKT In-school placement model: academic and school In-school placement coordinators, academic and school mentors and student teachers. It also introduces the experience they are going to participate in during the pilot, what are we going to do? And the personalised learning process we will offer them during the In-school placement.

The sequence of In-School placement is developed in six stages. Each stage has its own objectives and activities and 16 instruments are proposed to implement them. It is a flexible proposal that Initial Teacher Training institutions and Academic and School mentors should adapt and concretise in order to be able to transfer the EKT system (Platform and methodology) to their contexts.

Finally (section six) the proposed methodology is aligned with the different tools and functionalities of the advanced e-learning system EKT (output 8). In this final section, a help guide is set up with recommendations on the system's tools that may be suitable for implementing the model. That is, each of the activities and strategies proposed throughout the six stages. This section is also intended as a flexible proposal for the use of the different tools of the EKT platform that can guide academic and school mentors in the design of the training process, but we are sure that they will be able to define other multiple uses of the system's tools and be creative in their application.

The EKT advanced e-learning system (outputs 8 and 9) has followed a Design Based Research process that started in the first meeting of the EKT project when the academic partners established a first document of basic functionalities of the EKT system (Methodology and platform). This initial design was developed in detail in the working meetings of the technical team with the academic team during the first year of the project. In this way, and through a collaborative process, the set of basic indications and specifications on which the first version of the EKT system was designed was defined. This set of guidelines is part of deliverable 6 and is introduced as Annex 7.1 of this document.

The piloting of the EKT project involved an iterative design process in several cycles. Thus, a "Minimum Viable Product" was developed and tested in 5 European universities during the academic years: 2021-22 and 2022-23. This two-phase piloting allowed a rigorous evaluation of the EKT system from the point of view of improvement needs and user issues.

In this process, two ways of creating knowledge (pedagogical and technological) were aligned through "educational" and "user" research. In this way, the evaluation of the EKT System during its piloting provided sufficient data to adjust it and respond to the needs and improvements formulated by the users.

Section 6 of this report includes all the functionalities and features of the final version of the EKT system (platform and App), which are available to interested parties on the project's website.

2. EKT TRAINING MODEL:

Teaching Competence Framework and Study of needs for the improvement of In-School Placements

The two reference elements considered for the definition of the pedagogical and technological framework of EKT are presented below.

- On the one hand, the formulation of a common Teaching Competence Framework for all European Initial Teacher Education institutions to provide a shared professional reference model for the orientation of school practices. At the beginning of the pilot process, the mentors, together with the student teachers, will determine on the basis of this model the specific competences to be worked on during the In-School Placement. It will serve as a reference for reflection and overall evaluation of the process.
- On the other hand, the main conclusions drawn from the study of the needs for improvement of the carried out in EKT project Work Package 2 that allow us to identify the key elements to be reinforced with the EKT system.

2.1. The European teacher in the 21st century. Framework of competences and teaching tasks

In the absence of a European reference framework on teaching competence that could serve as a standard to guide the student's training process during the internship, the different existing international frameworks were reviewed and a proposal was formulated that includes all the professional functions and areas of intervention of a teacher. The proposal contains 17 competences organised around the following 8 areas of professional teaching competence:

- 1. Professional updating**
- 2. Educational intervention**
- 3. Creative and innovation**
- 4. Social and relational**
- 5. Communicative**
- 6. Digital y MASS media**
- 7. Personnel and Ethics**
- 8. Reflection, evaluation and feedback**

This framework of competences will be useful for the definition of the educational activities to be developed during the In-School Placements, for the development of the individualised monitoring processes of the student teachers, for the definition of the reflective sequence and for the evaluation of the expected learning according to the objectives of each type of In-School Placements with the EKT system.

Table 1. EKT Teaching Competence Framework

		AREA OF COMPETENCE							
		Professional updating	Educational intervention	Creative and innovation	Social and relational	Communicative	Digital y mass media	Personnel and Ethics	Reflection, evaluation and feedback
CONCEPTUAL DESCRIPTION:		<ul style="list-style-type: none"> ▸ To retrain, to maintain “employability”, to constantly train oneself with regard to the demands and needs that arise in the work context. 	<ul style="list-style-type: none"> ▸ Transfer professional knowledge and skills to real educational scenarios and processes. 	<ul style="list-style-type: none"> ▸ Create new approaches and novel/innovative approaches to educational processes and scenarios. ▸ Continuous improvement of practice. 	<ul style="list-style-type: none"> ▸ Creating and managing positive interaction situations in any professional or personal scenario/ situation ▸ Contribute to maintaining a favourable climate for coexistence, learning and collaboration. 	<ul style="list-style-type: none"> ▸ Maintain an attitude of proximity and empathy with students, families and other professionals. ▸ Creating and managing communication situations with empathy, receptiveness, spontaneity and clarity, fostering a climate of trust and constructive exchange with the different agents (classmates, students, families, etc.). 	<ul style="list-style-type: none"> ▸ Incorporate the educational possibilities of digital technologies and media into educational processes and institutions. ▸ To guarantee the digital and media literacy of students. ▸ Accompany and collaborate with families in their responsibility for the digital and media education of students. 	<ul style="list-style-type: none"> ▸ Knowing oneself, taking care of oneself and maturing personally. ▸ Maintain an emotional balance. ▸ Develop critical thinking. ▸ Mainain an active commitment to identity, professional ethics and the teaching profession. ▸ Maintain an active commitment to inclusive values and respect-promotion of diversity in all its forms. ▸ Maintain an active commitment to equality and co-education 	<ul style="list-style-type: none"> ▸ Incorporate the educational possibilities of digital technologies and media into educational processes and institutions. ▸ To guarantee the digital and media literacy of students. ▸ Accompany and collaborate with families in their responsibility for the digital and media education of students.
	COMPETENCIES		<ul style="list-style-type: none"> ▸ Ability to acquire, assimilate, use and manage new contents related to educational action. ▸ Capacity for the selection and application of contents and resources appropriate to the living space of each student and linked to their evolutionary process. 	<ul style="list-style-type: none"> ▸ Ability to select, design, use and consciously manage approaches, methods, didactic situations, adapted educational programmes, techniques, psycho-pedagogical procedures, learning spaces and times, as well as the most appropriate personal, material and digital resources to dynamise, promote and motivate learning. ▸ Ability to work in teams with the members of the educational community in collective pedagogical projects oriented from a cooperative perspective. 	<ul style="list-style-type: none"> ▸ Ease of adaptation to changes in the educational process, generating new learning opportunities that are original, flexible, viable and adapted to the learning needs of each student. ▸ Ability to explore different forms of creative expression in order to develop the child's aesthetic taste and critical spirit in the creative process. 	<ul style="list-style-type: none"> ▸ Ability to relate and interact appropriately with pupils, parents, colleagues and other experts involved in education ▸ Ability to manage the participation, collaboration and intervention of pupils, mothers, fathers, colleagues and other experts linked to education in educational action. 	<ul style="list-style-type: none"> ▸ Ability to establish effective and efficient pedagogical communication with pupils, their parents and other members of the educational community. ▸ Ability to regulate conflicts by orienting them towards dialogic processes and towards their resolution through cooperation and negotiation. 	<ul style="list-style-type: none"> ▸ Safe and critical use of information society technologies (IST) in order to improve the effectiveness of In-school placement. ▸ Appropriate use of digital sources and resources for continuous professional development and communication with the different members of the educational community. ▸ Designing flexible scenarios and digital educational content 	<ul style="list-style-type: none"> ▸ Active engagement in relation to teachers' professional identity and ethics.. ▸ Ability to promote education in values with a moral basis and from a perspective of responsibility and respect.

2.2. Main conclusions drawn from the study of the needs for improvement of the carried out in EKT project Work Package 2

The exploratory research carried out in the initial phases of the EKT project (Brandão Carvalho, Fernández-Morante et al., 2023) revealed very valuable information from the perceptions of 347 experienced mentors from the 5 countries, with a representative sample of both academic (117) and school (230) mentors. It also allowed to know the extent of the importance attributed to initial teacher training and the specific organizational characteristics that they adopt in each of the countries and their institutions of higher education. In all cases, in-school placement is a key component of initial teacher training and is developed through the collaboration of academic and school mentors. However, the duration, organization in terms of the learning tasks they entail and the evaluation instruments used vary greatly. Despite this variability, it is possible to identify that in all countries there is a shared concern in improving the processes of reflection on training using appropriate strategies and instruments that promote the development of a critical attitude of the student teacher when learning the different teaching tasks and teaching functions.

Mentors confer vital importance to mutual collaboration in all training activities, both in those related to their organization, definition of norms, guidelines and learning tasks as well as in those related to the personalised orientation of the student teacher and the monitoring and evaluation of the whole process. On the other hand, the results obtained in the research show that there is a significant distance between the importance given by the mentors to the collaboration in in-school placement activities and the level of collaboration that actually exists. **The study highlighted five areas** where collaboration between mentors needed strengthening:

- Curricular coordination, contacts and meetings between the Higher Education Institution and the placement centres throughout the process.
- The preparation of materials, learning resources and assessment tools that will be used in the training process and their presentation to student teachers.
- The development of favourable attitudes and skills towards educational innovation on behalf of the student teacher.
- Feedback (written or oral) to the student teacher during training.
- The preparation of the student teacher and observing their intervention both in the classroom and in the Educational centre.
- The joint planning and supervision of all student teacher activities and tasks.

Regarding the personalised follow-up and reflective learning of the student teacher during training, the mentors in all five countries highlight the importance of this dimension in the training process. They also stressed the absence of adequate resources and technological tools that facilitate these processes and allow them to make a continuous and collaborative follow-up in all phases (before, during and after in-school placement) as well as giving individualized feedback to student teachers. **The study underlined three types of needs:**

- Synchronous and asynchronous virtual communication tools that allow triadic interaction (academic mentor, school mentor and student teacher)
- Tools for recording direct observations, reflections and productions of student teachers during training.
- Tools for the individualised monitoring of student teachers by mentors and training assessment.

¹Brandão Carvalho, Fernández-Morante et al., 2023

Considering the aforementioned difficulties and needs, the EKT system was conceived with the aim of facilitating all the activities and interaction processes that take place during teacher training by promoting continuous collaboration between mentors and student teachers, personalized follow-up and feedback to student teachers throughout the process. Therefore, the EKT system, composed of a methodological proposal and a technological solution for its implementation, constitutes a proposal aimed at **improving two dimensions** that are crucial in the development of in-school placement:

1. **The organisation, management, and coordination of mentors throughout the process, both from the planning and definition of the training proposal, as well as the arrival of the student teacher at the school, during their intervention and performance in the school, to the evaluation and closure of the training period.** The EKT system should make it possible to bridge school and university contexts together and help overcome the associated difficulties in collaboration that mentors usually experience and that are generally associated, among other factors, with the physical distance between them. It should also contribute to generating a culture of real collaboration between mentors that goes beyond the sum of individual efforts which all too often are disconnected and sequenced throughout the process. In other words, university mentors should play an exclusive role in the design phase of the training, and school mentors during the intervention of student teachers in the school. Moreover, university mentors should again take part in the assessment phase of the training. The EKT system should therefore consider the necessary means to enable collaboration (training strategies, virtual reference environment for learning and collaboration, tools and functionalities), but also stimulate collaboration between mentors throughout the process by suggesting possible collaboration strategies in all the activities planned during the placement. As for the means necessary to make collaboration possible, **the EKT system should consider different channels and communication systems** allowing academic and school mentors to work remotely and flexibly, and provide spaces and tools to create, collaboratively edit and share resources and materials in different formats (guides, evaluation instruments, documents, literature, teaching materials in various formats).
2. **The collaborative and personalized follow-up and feedback to the student teacher throughout the process;** from the preparation of the prospective teachers, prior to their arrival at the school, in the knowledge of the rules of operation, the responsibilities and the role of each agent, the instruments and tools of work, the characteristics of the context and the criteria and strategies of evaluation, to the accompaniment and personalized guidance throughout the immersion experience in the educational centre and progressive acceptance of responsibilities in different teaching tasks. The EKT system should contemplate, in addition to means and communication strategies, tools for the creation of collaborative editing and sharing of resources between mentors and student teachers, other elements that would allow to relate and share in first person the experience of the student teacher reflexively and for it to be retaken, reconstructed and accompanied under mentor guidance. It would be necessary to **build an e-portfolio of practices and strategies to guide student teachers in the reflective process and mentors in their feedback.**

3. KEY ELEMENTS OF THE MODEL

The literature analysis and the research conducted in WP2 found that the qualitative improvement of In-School placement revolves around three elements on which technologies can have the greatest impact:

- Dynamics coordinated work between academic and school mentors who supervise and accompany the student during the practice period.
- The individualized follow-up of students teachers in practice and their continued attention.
- The reflexive self-learning process that the student teacher must perform during the period of in-school teaching practice.

The EKT e-learning system we have developed revolve around them, trying to promote and facilitate them with appropriate strategies and tools to be implemented in the pilots.

3.1. Coordination and communication

Coordination during the practices aims to ensure that the process is developed by accompanying the student teachers at all times (from preparation to the end of the practices) and advising them in a collaborative manner and with shared responsibility (both academic and school mentors). To achieve this, we would have to promote coordination at two levels: organisational and pedagogical/training.

3.1.1. Coordination at organisational level:

1. Coordination between the management teams of the universities/academies and the management teams of the practice centres (practices coordinators of both institutions: academic coordinator and school coordinator).

Main activities they could carry out:

- a) Planning of In-School Placement period (guides, conventions, distribution of student teachers per placement school, allocation of academic and school mentors).
- b) Communication with all placement schools. Need to manage communication for queries or incidents.
- c) Working meetings of the coordinators of each institution with the mentors.

2. Coordination between academic and school mentors

Main activities they could carry out:

- a) Development/updating of the specific planning for each In-School Placement period
- b) Identification of organisational needs and resources
- c) Working meetings of academic and school mentors.
- d) Troubleshooting/incidents during the In-School Placement.

3.1.2. Coordination at the pedagogical level:

1. Coordination between academic and school mentors

Main activities they could carry out:

- a) Analysis of the development of In-School Placement according to the planned schedule and design of adaptations that may be necessary.
- b) Assignment of training tasks
- c) Suggestions/proposals to address the student's teacher training needs that arise in the process
- d) Research/production of training materials
- e) Advice on individual consultations.

2. Coordination between the two mentors and the supervised student teacher.

Main activities they could carry out:

- a) Advice on the design of the Training Plan
- b) Advice in the elaboration of the internship report, dissertation/final project, in the elaboration of observations, internship diaries, records of information, interventions in the classroom/placement school.
- c) Analysis of training needs with the student teacher.
- d) Counselling for individual consultations on the development of the In-school placement.
- e) Feedback in the student's teacher reflective process

3. Coordination of each mentor (academic or school) with the group of student teachers he/she supervises.

- a) Learning with others: process meetings where experiences are shared among all (horizontal networks, learning community).

3.2. Individual student follow-up

The **objective of this education and technological framework focuses on the active follow-up of the student teacher** throughout the training by a team composed of the two mentors. The methodology is designed to advise and strengthen the student teacher's individual and reflective learning. The student teacher will use the EKT e-portfolio as a training tool to record, annotate, incorporate training materials and materials for practice, and all the questions or sections, which he/she decides and which are a reflection of what he/she is learning.

The student teacher will give access in his/her e-portfolio to other students in the same group so that a horizontal network of collaboration and active and reflective learning is established between them. **Mentors will follow up the e-portfolio and give feedback and support to the student throughout the six stages of the EKT model.**

The e-portfolio will allow collecting, reviewing, documenting and interacting and will be structured according to the methodological sequence.

3.3. Autonomous and reflective learning

The literature and our experience as teacher educators indicate that reflective thinking, that is, the ability to reflect and learn about practice, is a fundamental skill for teachers (not only in their initial training but throughout their professional practice). This means that teaching is not a mechanical process and teachers' professional knowledge has an experiential as well as an academic component. This experiential component must be worked on. If not, teacher's professional practice would rely mainly on trial and error, imitation of others, etc. **Our aim is to train teachers with a capacity for innovation and constant improvement**, and this requires, among other things, **developing this capacity for reflection and analysis of their own practice.**

Initial Teacher Education incorporates theoretical and practical knowledge through the different subjects in the curriculum (e.g. the concept of curriculum and its components - theoretical - or how to carry out a diagnostic evaluation). This knowledge is tested, redefined and reinforced during the In-School Placement. **It is a complex learning process as teaching is not only technical but also has an artistic and creative component.**

Key to this is the reflective process that the student teacher carries out during the placement. This process is not spontaneous: it must be guided (sequence and structure of the e-portfolio), guided and based on observation and on the collection of evidence by the student. They must systematically reflect on this evidence with the help of their mentors (academic and school).

The EKT methodology encourages student teachers to reflect critically on all the activities carried out in school placement, with **special emphasis on experience**:

- 1. Linking the activities and experiences with previous training.** In other words, the reflection should relate the experience to the subjects and competences of the degree or master's degree they are studying. Understand that the activity carried out as an teacher student is based on what has been learnt in the subjects and explain it in your written reflection. This helps to fix and extend the theoretical and practical knowledge developed in the initial teacher education centres.
- 2. Link with their future professional practice.** In this case, the focus is more on the teacher's own tasks and functions, which he/she will recognise and understand during the Prácticum, and on the implementation of professional competences. Whether the student teacher intervenes or observes their school mentor in the classroom (in placement schools student teachers generally take on responsibilities progressively and usually with the help of mentors and sometimes alone under their supervision -usually at the end-). They will reflect and analyse in this case what kind of competences they (the student teacher and/or the mentor) observed and/or performed and how the process developed (effects, difficulties, successes, needs experienced and how to improve).
- 3. Assessment of the student teacher's involvement** in the different situations experienced and professional activities carried out during the in-school placement. In other words, self-reflection on his or her role, how he or she acted and why... In a certain sense, this is an analysis of the attitudes, actions and decisions that the student teacher adopts and how he/she sees him/herself and builds his/her professional identity. In short, it is about the socialisation process.

In short:

- The reflection we are looking for is a **process inherent to the In-school placement** that requires systematic and continuous observation, notes, analysis time in the medium and long term so that reflection is not abstract and learning takes place.
- The reflection we seek requires **defining and using strategies** to guide the analysis. More than a memory, reflection must be based on evidence (systematic records in the e-portfolio).
- The reflection we seek involves **theory-practice interaction** and these are internalised and can be transferred to other situations (moving from tacit and/or theoretical knowledge to professional knowledge).
- The reflection we seek constitutes one of the **sources of analysis and evaluation** for mentors in addition to observation, assessment of artefacts (student' teacher productions to intervene with pupils).

4. PROTAGONISTS-AGENTS. PROFILE AND FUNCTIONS/ROLES

The EKT System contemplates **4 agents involved** in teacher's professional practices:

4.1. Academic Coordinator

Academic coordinator in charge of the management of the In-school placement before and during the development (agreements, placements, allocation/selection of mentors, mediation with schools...). This function is usually carried out by a member of the management team of the initial teacher education centre.

4.2. School Coordinator

School coordinator in charge of the management of the in-school placement before and during the development (agreements, placements, allocation/selection of mentors, reception of the student teachers, coordination of student teachers and mentors at the placement school, etc.). This function generally falls to a member of the management team at the placement school.

4.3. Academic Mentor

Professor/Lecturer at the initial teacher education centre in charge of supervision, accompaniment, training and assessment of the student teacher. This function generally falls to trainers with a degree or master's degree in initial teacher education, and in many cases, if the ITE centre is a university, Phd in education. In general, these are trainers with a university profile.

4.4. School Mentor

School placement teacher who is in charge of accompanying, training and assessing the student teacher from the placement school. Generally, this function is carried out by teachers from the placement school at the relevant levels of education. In general, these are teachers at all levels of education from kindergarten to Bacallaureate.

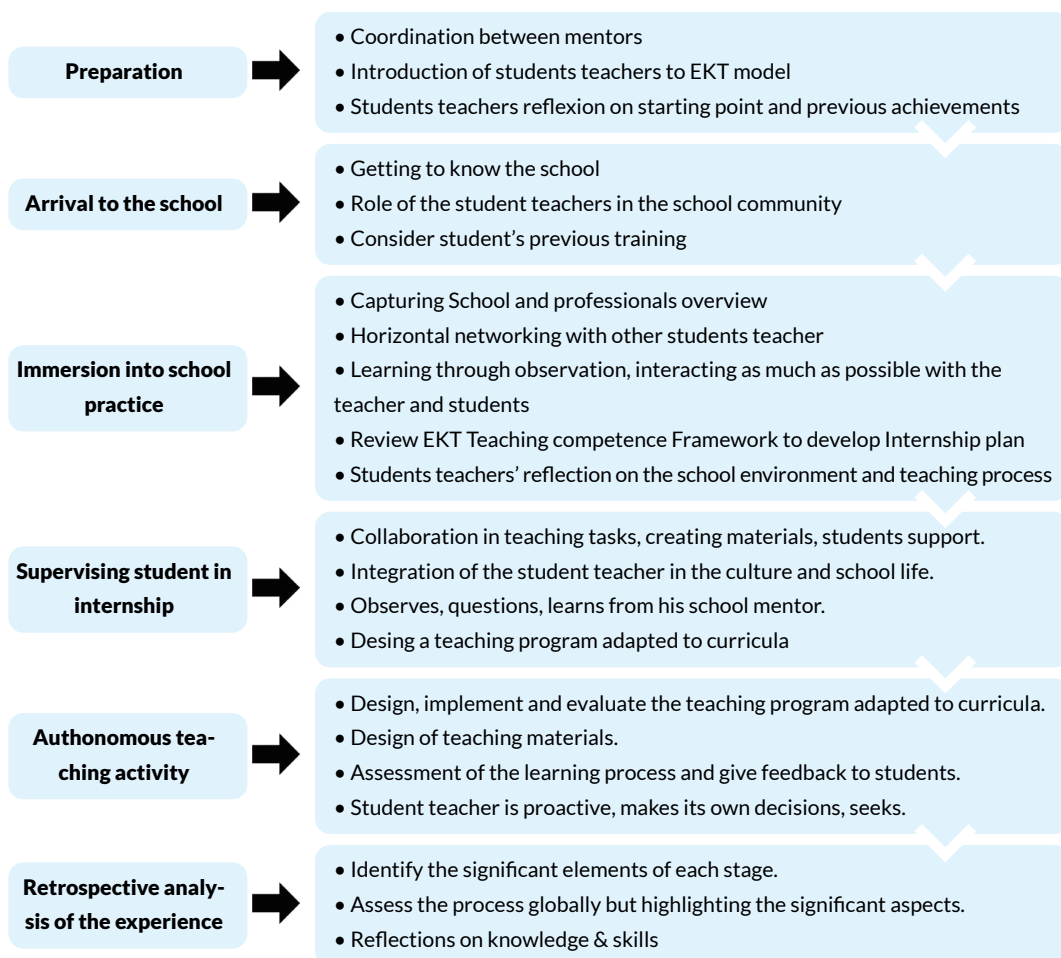
4.5. Student Teacher

Future teachers. Students of initial teacher education studies who, during their preparation, carry out internships in placement schools. They are generally degree or master's degree students depending on the level of education for which they are being trained and the type of initial teacher education studies in each country.

5. EKT TRAINING SEQUENCE: STAGES

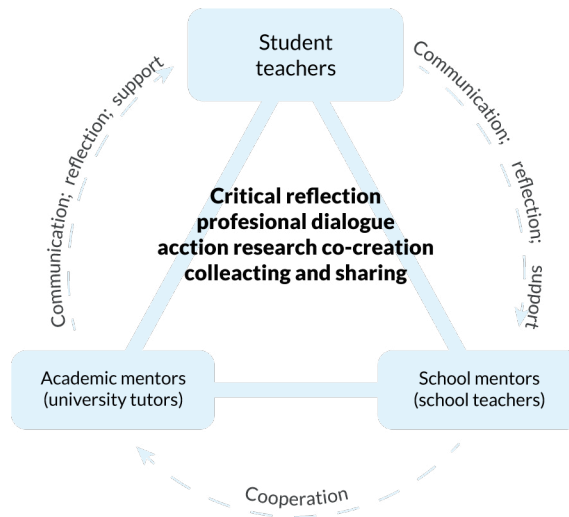
This section presents the sequence of In-school placement, the **suggested stages with their objectives and activities and the instruments suggested to implement them**. It is a flexible proposal, which in each context and with each student teacher, the mentors will have to specify in a collaborative way. Taking into account the existing diversity in the organisation and approaches to In-School Placements in Europe that the needs study revealed, the sequence is conceived as a flexible proposal, and the instruments are set out to be developed, if necessary, in each pilot.

Figure 1: Stages and sequence of the EKT methodology (general model)



The EKT model promotes an autonomous and reflective learning process in such a way that the student teacher identifies, analyses and understands how he/she is constructing his/her professional identity. To this end, they experience different learning processes at each stage with the support of their mentors and other agents in a collaborative and mutually supportive environment. In the EKT model the "Triadic Relationship" formulated by Hall et al (2018) is fundamental to making the model work and the learning process be endowed with the levels of interaction, collaboration and reflection we are looking for.

Figure 2: The Triadic Relationship



The two mentors (academic mentor and school mentor) intervene in the process and in a coordinated way and throughout the whole process they will support and guide the student teacher. Other agents and groups from their educational community (placement school) and their peer group (other student teachers from their school and/or other school participating in the pilot) will also participate naturally and spontaneously.

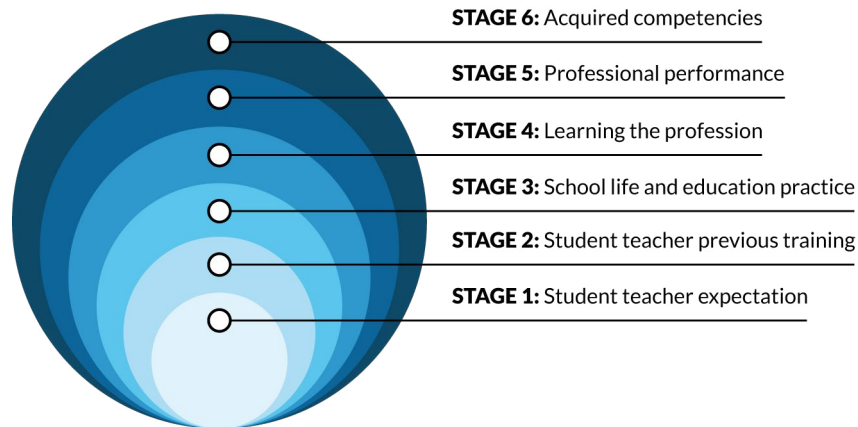
The learning process has been designed with the intention of **promoting and achieving an oriented and gradual involvement of the student teacher** both in the school and in the teaching tasks, thus assuming responsibilities in a progressive manner: from less to more autonomy with the supervision of their mentors. Thus, the In-school placement sequence consists of six stages involving different objectives and levels of responsibility and autonomy. Each of these stages focuses on specific aspects of the teaching profession that lead the student teacher to focus on all dimensions of the process and guide his or her reflective learning.

The process begins with preparation prior to arrival at the school (stage 1) and ends with a retrospective analysis of the experience (stage 6). The four intermediate stages gradually introduce and integrate the student teacher into the professional reality. Thus:

- **Stage 2** “Arrival at the school” and **stage 3** “Immersion in practice” focus on the life of the school and teaching tasks, with its functioning, organization, relationships between people, rules of coexistence, social networks, pedagogical identity, professional cultures, etc.
- **Stage 4** “Supervised professional action” and **stage 5** “Autonomous teaching activity” are projected on the teaching practice and its experimentation. Sometimes this experimentation will be guided, collaborating with the mentor in specific tasks. On other occasions the experimentation will involve a more far-reaching and much more autonomous action, always under the observation and guidance of their mentors (designing a didactical approach adapted to the reality of the placement school, selecting and designing teaching materials, implementing the didactical approach, evaluating, etc.). These two stages apply depending on the objectives of the in-school placement period being piloted, when these are not carried out continuously, and the level of autonomy of the student teacher contemplated in the process.

The whole process has been designed to promote autonomous learning and reflection of the student teacher with the support of their mentors and in a learning community involving other student teachers. **To this end, the EKT e-portfolio, the central tool of the process**, is interconnected with all the tools of the EKT e-learning system that provide multiple functionalities for collaboration, creation, communication, training and the realization of all the planned activities.

Figure 3: Iterative cycle of reflection in the EKT model (stages and object of the reflection)



The EKT e-portfolio will allow to collect and guide the reflection along the whole training itinerary of the education practice, including evidences on the activities carried out at each stage and the contributions of others (feedback from mentors, debates and knowledge of other students' experiences, learning materials, own productions (education practice project, materials...) and tools for self-evaluation and heteroevaluation.

The EKT model develops a complete In-School Placement model, but flexible to adapt to the timing and organization of education practice according to the specificities of initial teacher education in each country and academic institution.

5.1. Stages in the EKT methodology. Objectives, activities and learning tools

Each of the stages and instruments of the EKT methodology has a purpose. The sequence is designed to promote that the whole system is coordinated in each of the different moments of the In-School Placement process. **This sequence is accompanied by suggested analysis tools to guide the reflection process that will be incorporated in the EKT e-portfolio.** This will include the analysis instruments, the evaluation tools, all the materials used and contributions from the two mentors, also from others student teachers that he/she incorporates to his/her reflection.

Taking into account the diversity of approaches and instruments commonly used in Initial Teacher Education institutions in Europe, it has been decided to list possible tools and instruments with their main purpose in order to make appropriate choices in each context. In other words, if similar instruments exist, they should be incorporated and if they do not exist and are considered appropriate, they should be developed in a contextualised way.

Each of them is described below.

STAGE 1. PREPARATION

Process prior to the student teachers entry into the placement school. At this stage the mentors will negotiate and agree on the work dynamics. That is, their strategy for collaboration, communication and student follow-up. The student teacher will also be prepared for the pilot in the academic context.

1.1. Training of Mentors in the EKT system: SPOC

1.2. Meeting between the mentors prior to the presentation of the proposal to the student teachers.

A. Organizational tasks

B. Coordination plan between mentors: agreements on in-school placement planning and determination of the use of the EKT elearning system and tools.

- How to coordinate (communication, materials to be used and operating rules).
- Sequence of collaborative activities to be developed in the Placement School..
- How the student teacher will be monitored/evaluated.
- How the whole process will be evaluated to identify difficulties and propose improvements.

1.3. Academic Mentor's meeting with student teachers (all student teachers under his/her care)

A. Contextualization of the In-School Placement in their previous training (qualification in each country).

- Presentation of the objectives and competencies to be worked on during the In-school placements.
- Relation of the In-School Placements with the subjects of your degree program (previous training and background).

B. Organizational issues: placement school and assigned school mentor, time planning, code of ethics, In-School Placement evaluation system.

1.4. Training of student teachers in the EKT system, professional dialogue and action-oriented reflection (SPOC)

1.5. Self-reflection in the EKT e-portfolio on student teacher expectations. (SPOC)

Questions to guide reflection on the EKT e-portfolio in the first stage

- What reasons made you choose the teaching profession?
- What experiences as a pupil led you to appreciate the teaching profession?
- From your point of view as a student, what would you highlight in a good teacher?
- Have your motivations changed over the years of your Initial Teacher Training?
- Of the subjects in which you have been trained (ITE) which do you think will help you in practice?
- What personal skills or attitudes do you have that will help you to become a teacher?

Suggested instruments for **student teachers**:

- **Instrument 1:** Code of ethics and informed consent for participation.

It should include the main behavioural guidelines and confidentiality commitments that the student teacher undertakes to respect when joining the placement school.

- **Instrument 2:** Analysis of previous training.

It should include a proposal for analysis of prior learning acquired and its possible application in practice (theories, principles, concepts, methodologies and strategies). This instrument should be useful both to define the elements to be observed and to interpret the observed elements and to base the process of reflection on the EKT e-portfolio.

- **Instrument 3:** Record of expectations

It should include a set of questions that help the student teacher to make explicit the expectations with which they are approaching the In-School Placement and which the mentors will then return to in order to help situate the student teacher appropriately in the formative process. Student' teachers expectations often exceed the training objectives and it should be remembered that the future teacher is a learner in the process.

Instruments for **mentors**:

- **Instrument 4:** Coordination plan between mentors

It should include the activities to be carried out during the In-School placement by the student teacher and the role to be assumed by the two mentors, as well as the different tasks to be carried out by each one and how they will complement, coordinate and communicate in the process. This plan must contemplate and refer to the EKT system tools that will be used for the three main purposes: communication and collaboration, promotion of the student's teacher reflective process and its monitoring and evaluation.

STAGE 2. ARRIVAL AT THE SCHOOL

Arrival of the student teacher at the placement school. In this phase the school mentor introduces the student teachers to the context, defines his/her role and levels of participation in the placement school.

2.1. School Mentor's meeting with student teachers at the the placement school (all student teacher under his/her care)

- A.** Presentation of the placement school (environment/context, institutional identity, educational approach, work dynamics, organization...). Possible telematics or face to face participation of academic mentors.
- B.** Physical tour of the placement school, presentation to management teams and other professionals.

2.2. One-on-one mentoring to initiate the design of the In-School Placement Plan (academic and school mentors with the student teacher)

- A.** Concretization of the collaborative dynamics: use of the the EKT System (tools and functionalities) during the process (which tools of the system will be used and for what purposes).
- B.** Presentation of the EKT e-portfolio and the set of activities and learning tools.

2.3. Self-reflection in the e-portfolio on the student teacher previous training (Input SPOC).

Questions to guide reflection on the EKT e-portfolio in the second stage:

- How is the coexistence between the pupils and between the pupils and the teaching staff at the placement school?
- Do the teaching staff have good relations? Or is the relationship poor?
- At what times have you observed the relationship between the placement school and the families?
- What did you find interesting about the placement school in terms of its educational project?
- And at the level of its organisation, spaces, resources?
- Did you imagine it like this?
- How did you feel when you were welcomed?
- What were your biggest doubts and uncertainties when you arrived at the placement school?
- How did you resolve them?

Instruments for student teachers:

- **Instrument 2:** Analysis of the previous training. ([Already described in the previous stage](#))
- **Instrument 5:** Student teacher Internship Plan.

It must specify the set of tasks and activities to be carried out by the student teacher in the placement. These tasks must be consistent with the objectives of the In-School placement cycle (observation, participation, guided or autonomous intervention, reflection, etc.) and must be negotiated and agreed by the two mentors with the student teacher. It must also include the creations and productions to be made by the student teacher in the learning process and the organisational elements necessary to ensure coordinated monitoring of the process (meetings of the three agents, relevant dates, communication and monitoring system during the process and EKT system tools to be used).

STAGE 3. IMMERSION IN PRACTICE

Accompaniment in the daily life of the school mentor. In this phase, the school mentor serves as a role model and shares and explains his or her daily activities to the student teacher.

3.1. Observation of the institution and education practice.

3.2. Elaboration of the student teacher Plan for In-School Placement

- A.** Review of the EKT Teaching competency framework and specification of competencies/tasks to be developed in the placement School.

3.3. Horizontal networking with other student teachers from other other placement schools (national pilot level)

- A.** Meeting of all student teachers with their academic and school mentors to present their experience and discuss the realities they are observing (Telematic or face to face, National or school level)
- B.** Networking for interaction and feedback on the EKT e-portfolio.

3.4. Student teachers search for materials for self-training: emerging needs, collaborations and support to mentors, other placement school teachers and student teachers.

A. Incorporation of materials to the EKT e-portfolio (section II)

3.5. Self-reflection in EKT e-portfolio on school life and education practice.

Questions to guide reflection on the EKT e-portfolio in the third stage:

- What are the general characteristics of the group of pupils: level of development, group configuration, group cohesion (or existence of subgroups), adaptation to school...?
- What are the developmental characteristics of the pupils: learning rhythms, motivations, difficulties, etc.?
- Are there pupils with special characteristics in the group and how are they integrated in the class? What are their difficulties?
- When observing the activity carried out by the school mentor, what did you find most difficult?
- Analyse an activity that you observed and liked because it was innovative and share it.
- Think about a complex situation and analyse how the school mentor solved it. What was his attitude towards the difficulty? What elements helped to solve it? How did it work? Why do you think this happened? What elements did not help to solve it? Why? Did you think about how you would act in his place?
- What needs would you have to solve the situation if you were the teacher?
- What do you get from the interaction with your fellow trainees (other student teachers you interact with at placement school or on the EKT platform)?

Instruments for student teachers:

- **Instrument 5:** Student teacher internship plan. *(Already described in the previous stage)*
- **Instrument 6:** EKT Teaching competence Framework. *(Available in section 2)*
- **Instrument 7:** Observation sheet of the school life and education practice.

This instrument should guide the student teachers to direct their attention to all relevant elements of the ISP process and especially to develop a good understanding of the group-class with which the student teacher is working and its group dynamics. It will be necessary to direct the student's teacher attention to the individual, group and organisational aspects of the placement school which will enable them to understand also fundamental issues of class management, the climate of coexistence, pupils' development, level of maturation and learning processes, as well as the interaction between pupils and also the interaction of the school mentor and other teachers with the pupils.

STAGE 4. SUPERVISED PROFESSIONAL ACTION

This stage deals with the involvement in the development of teaching under the supervision of mentors. In this phase the student teacher assumes a particular teaching task of the school mentor's programme and begins to elaborate a contextualized didactic proposal in the teaching programme of his/her school mentor (a resource, an activity, a task, a specific support to a pupil). All the supervised professional activity will be previously defined in the Student teacher Plan for In-School Placement form (Instrument 5).

4.1. Participating in the teacher's professional practice

- A. Observation of teaching role and collaboration on planned teaching tasks.
- B. Analysis of the organization of classroom life, dynamics of participation, climate, design of learning scenarios, methodologies applied.
- C. Follow-up of the student's learning process and evaluation.

4.2. Designing a particular teaching task for the classroom and the placement school

- A. Design of the didactical proposal according to the needs of the classroom and school and incorporating action research as a professional development tool.
- B. Search for materials by the student teacher for self-training: emerging needs, collaborations and support to mentors, other teachers and student teachers.
- C. Elaboration of teaching materials for the didactical proposal
- D. Incorporation of the didactical proposal and all the materials to the EKT e-portfolio (section II).

4.3. Peer-to-peer learning, sharing in horizontal networks with other student teachers from other placement schools.

- A. Meeting of all student teachers with their academic and school mentors to present their didactical approach through an infographic and exchange ideas about their innovation proposals (Telematics or face to face at National or school level).
- B. Interaction and feedback to the didactic proposal in the EKT e-portfolio.

4.4. Self-reflection in the EKT e-portfolio on learning the profession.

Questions to guide reflection on the EKT e-portfolio in the fourth stage:

- 1.** It is necessary to understand what happens in the classroom in order to participate with the school mentor in the classroom dynamics:
 - How does the school mentor usually plan daily activities? How does school mentor organise the class?
 - How does school mentor reinforce the students, how does he/she motivate, how does school mentor provide feedback in the teaching process?
 - What elements does school mentor value in pupils' learning...?
 - What things does school mentor attach most importance to during the course of the school day?
 - Etc.

2. Now that you are already acting as a teacher in some classroom activities with the school mentor:
- How do you see yourself in this role? Do you feel comfortable?
 - Do you have any insecurities and how do you deal with them?
 - How did you feel in front of the pupils and their demands?
 - And how do you deal with conflicts, do you try to solve them or do you leave it to the school mentor?
 - With which types of activities did you have the least difficulties? why do you think this was the case?
 - What types of activities did you have more difficulties with? why do you think this was the case?
 - Were you able to contribute any materials to the activities that the school mentor had planned? What did you take into account to adapt them to the pupils?

Instruments for student teachers:

- **Instrument 8:** Analysis of learning about the profession

The elaboration of this instrument should be adapted to the main objective of the In-School Placement cycle being developed by the student teacher (observation, guided or autonomous intervention) and may be based on the EKT Teaching competence Framework to structure the key elements for observation, reflection and analysis (section 2).

- **Instrument 9:** Planning and development of the didactical proposal.

This instrument will be applied in In-school Placement that include the elaboration of an didactical proposal by the student teacher. This proposal will be defined and implemented together with the school mentor. In these cases, the EKT model suggests that the design should be based on the implementation of an action-research dynamic that gives meaning to the intervention proposal and allows the evaluation of its application and the students' teachers performance. The design of this proposal can be supported by module 2 of the EKT Preparatory Course (SPOC), which incorporates specific materials understand action research process and its implementation.

- **Instrument 10:** Self-assessment form I.

In the EKT model, assessment is conceived as a formative evaluation that contemplates the participation of student teachers (self-assessment and peer-assessment) and involves them and makes them participants in their own learning process. This instrument should be conceived as a rubric for the self-evaluation of the didactic proposal elaborated by the student teacher in this stage. Mentors should jointly define this instrument and incorporate the evaluation criteria and levels of achievement, and student teachers should familiarize themselves with it before designing their didactical proposal.

- **Instrument 11:** Guide for the Peer-Assessment of the didactical proposal (guidelines for the didactical proposal assessment by peers authorized by the student teacher).

Heteroevaluation completes the 360° view that the EKT model intends to have on the training process and collaboration. In this case, the instrument is an adaptation of the self-assessment form I so that peers can evaluate the student's teacher didactic proposal with criteria. Again, the peers who will take part in the peer-assessment process should familiarise themselves with it prior to the evaluation of the didactic proposal.

STAGE 5. AUTONOMOUS TEACHING ACTIVITY

This stage is about involvement in the development of teaching by student teacher with a complete level of autonomy. It involves a significant increase in the student's teacher responsibility in the process while mentors watch him/her. In this phase the student teacher implements and assesses its own didactical proposal. Mentors observe to help reflect on their performance afterwards.

5.1. Implementation of the own didactical proposal through action research and recording of field notes on the professional action.

- A. Elaboration of teaching materials for the own didactical proposal.
- B. Incorporation of all materials into the EKT e-portfolio (section II).

5.2. Evaluation of the implementation of your didactical proposal.

- A. Incorporation of evidences of professional performance in the EKT e-portfolio (data collected from the action research): photos, student teachers' creations, evaluation reports/materials, etc. (section II)

5.3. Evaluation of professional performance (instrument 8)

5.4. Feedback from the mentors on the performance of their role and the adequacy of the didactical proposal to the classroom and placement school (through the EKT e-portfolio and face-to-face and virtual interaction).

5.5. Self-reflection in the EKT e-portfolio on the process and their professional performance.

Questions to guide reflection on the EKT e-portfolio in the fifth stage:

- What were the most significant moments in the experience of taking on the full teaching role?
- Were there differences between what you expected to happen when you acted and what turned out in the end?
- What did you draw on in designing your intervention? your previous experiences? the work of the school mentor? the input of the academic mentor? ideas that came from prior knowledge or learning from the shared experience of other student teachers?
- How has the relationship with the pupils? changed now that you are a fully-fledged teacher?
- When the teacher or school mentor observed your performance, how did you feel?
- What do you like about the role of the teacher?
- In what aspects do you find it most difficult to fulfil your role?
- What training needs have you now detected in the performance?

Instruments for student teachers:

- **Instrument 8:** Analysis of learning about the profession.

This instrument should be oriented to stimulating the student's teacher analysis and reflection on how the ISP experience has changed his or her vision of teaching, the functions performed, the level of competence acquired by the student teacher and the main learnings.

- **Instrument 12:** Self-assessment form II.

In the EKT model, assessment is conceived as a formative evaluation that contemplates the participation of student teachers (self-assessment and peer-assessment) and involves them and makes them participants in their own learning process. This instrument should be conceived as a rubric for reflection and self-assessment on how the student teacher lived the experience of autonomous intervention. How he/she felt and saw him/herself during the ISP. Mentors should jointly define this instrument and incorporate the evaluation criteria and levels of achievement, and student teachers should familiarize themselves with it before the implementation of his/her own didactical proposal.

STAGE 6. RETROSPECTIVE ANALYSIS OF THE EXPERIENCE

Conclusion and closure of the process. In this phase the student teacher and the mentors review the process with the objective of understanding how the student teacher assumed and performed the teaching role.

6.1. Identification of significant elements and processes at each stage

- A. Reflection on the contribution of prior training in education practices.
- B. Evolution of their vision of the teaching role after the In-School Placement.
- C. Reflection on the contributions derived from personalized mentoring.
- D. Reflection on the contributions derived from peer learning.

6.2. Evaluation of the process and results

- A. Assessment of the learning process of the profession by reviewing its trajectory with all the compiled materials and instruments that are part of the EKT model that are part of the EKT e-portfolio.
- B. Meeting with the mentors to discuss and analyze the student teacher's progress through the individual evaluation report prepared by the mentors (Telematics or face to face).
- C. Meeting of all student teachers with their academic and school mentors to evaluate the In-School placement. (Telematic or face to face at National level or at school level)

6.3. Self-reflection in the e-portfolio on the acquired competencies.

Questions to guide reflection on the EKT e-portfolio in the sixth stage:

- In this final moment, reflection focuses on personal development, making explicit what the student has learned and how the internship experience has contributed to student training process as a teacher. Reflection could revolve around the following questions:
- Knowledge that i have now completed or deepened from praxis and have understood better (ekt teaching competence framework may help. Table 1)
- Personal skills or attitudes that you think a good teacher has, etc.
- Procedures, strategies, abilities, skills, etc. Of different kinds (pedagogical, communicative, manual, organisational, etc.) That are important for you in your professional tasks.
- Attitudes acquired in the process
- Comments demonstrating knowledge of the functions that the teacher performs in student teachers' day-to-day work
- Review of expectations (stage 1)
- Motivation to exercise the teaching profession.

Instruments for student teachers:

- **Instrument 2:** Analysis of previous training

Already described in the previous stage

- **Instrument 6:** EKT Teaching competence Framework

Available in section 2

- **Instrument 8:** Analysis of learning about the profession.

Already described in the previous stage

- **Instrument 13:** School evaluation form by the student teacher
- **Instrument 13:** Learning process with the EKT system.

This instrument should aim to stimulate the student teacher's use of the EKT System, how they use the system's functionalities and tools in their practice and how it enhances the experience of interaction and support during the process. Also to formulate proposals for improvement and new functionalities.

- **Instrument 14:** Final report

This instrument will serve as a guideline for the elaboration by the student teacher of the final product of the In-school placement. This product takes different formats in European initial teacher education centres: in some cases it is a full and reflective report of the experience, in other cases it is the design and evaluation of teaching programmes or the elaboration of ISP diaries or small educational research. In any case, the instrument must detail the format, objectives and evaluation criteria of this final product, which the student teacher must be familiar with at the beginning of the process. Its development will be progressive and the EKT e-portfolio will have a specific section for accompanying and giving feedback to the student teacher in its development.

Tools for mentors:

- **Instrument 15:** Academic mentor's report on the student teacher training process

This instrument refers to the rubric of evaluation of the learning process and level of achievement acquired by the student teacher that will reflect the assessment of the Academic Mentor. It should take into account the objectives of the process and the Student teacher internship plan and should be subject to joint analysis by the three agents: mentors and student teacher. It will have a specific section for reflection after the mentors' assessment.

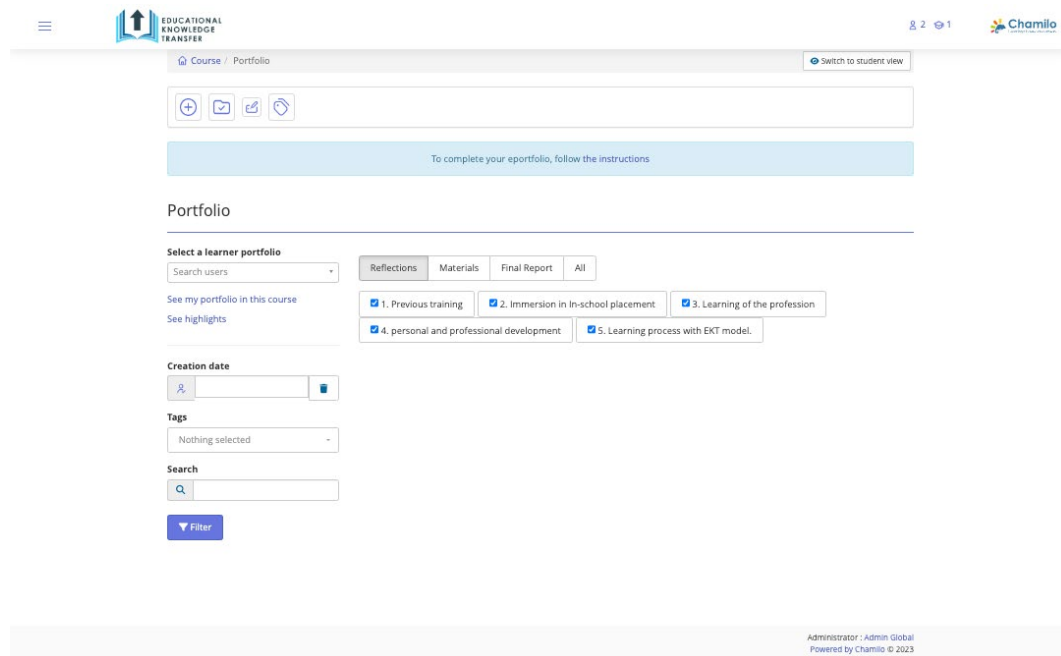
- **Instrument 16:** School mentor's report on the student teacher training process

This instrument refers to the rubric of evaluation of the learning process and level of achievement acquired by the student teacher that will reflect the assessment of the School Mentor. It should take into account the objectives of the process and the Student teacher internship plan and should be subject to joint analysis by the three agents: mentors and student teacher. It will have a specific section for reflection after the mentors' assessment.

5.2. Tool for learning and reflection: EKT e-portfolio

The EKT e-portfolio will be the fundamental tool of the elearning system to collect and guide reflection throughout the entire training itinerary of the education practice. The EKT e-portfolio contemplates a coherent structure with the EKT methodology in all its stages and constitutes the individualized learning and collaboration environment that will support the student teacher and give continuity to the process.

Figure 4: EKT e-portfolio structure



5.2.1. Structure of the EKT e-portfolio

Section I. Reflection (Autonomous and reflective learning process)

1. Analysis of previous training

- Form for the analysis of previous training (Instrument 2 stages 1, 2 and 6)

2. Analysis of Immersion in in practice

- Observation sheet of the school life and education practice (instrument 7 stage 3)
- EKT Teaching competence Framework (Instrument 6 stage 3)

3. Analysis of the learning of the profession

- Analysis of learning about the profession (instrument 8 stages 4, 5 and 6)

4. Analysis of personal and professional development:

- Record of expectations (Instrument 3 stage 1)
- Report of each stage (free Self-reflection space in the EKT e-portfolio)

Stage 1 Preparation

Stage 2 Arrival at the school

Stage 3 Immersion in practice

Stage 4 Supervised professional action

Stage 5 Autonomous teaching activity

Stage 6 Retrospective analysis of the experience

- Self-assessment forms (2 forms to be filled in by the student teacher Instrument 10 -stage 4- and instrument 12 -stage 5-).
- Guide for the Peer-Assessment of the didactical proposal (Instrument 11. Stage 4).

5. Student Teacher evaluation of the learning process with the EKT model.

- Learning process with the EKT system (Instrument 13 stage 6)

Section II. Materials (and evidences on the formative process)

1. Code of Ethics and Informed Consent for Participation

- Code of Ethics and Informed Consent Form (instrument 1 stage 1)

2. Student teacher In-School Placements plan

- Student teacher internship plan (instrument 5 stages 2 and 3)

3. Processed or reused products

4. Planning and development of the didactical proposal (instrument 9 stage 4)

5. Evidences: data collected from the action research, photos, student teachers creations, evaluation reports/materials, etc.

Section III. Final Report (final In-School Placements report)

1. Final In-School Placements report

- Guidance form on the final In-School Placements report (Instrument 14 step 6)

2. Final reflection after mentors evaluation of the student's teacher learning process.

- Individual evaluation form of the student teacher by mentors (Instrument 15 and 16 step 6).

5.2.2. Organisation and meaning of the EKT e-portfolio instruments

Figure 5: Instruments for learning in the EKT education practice model

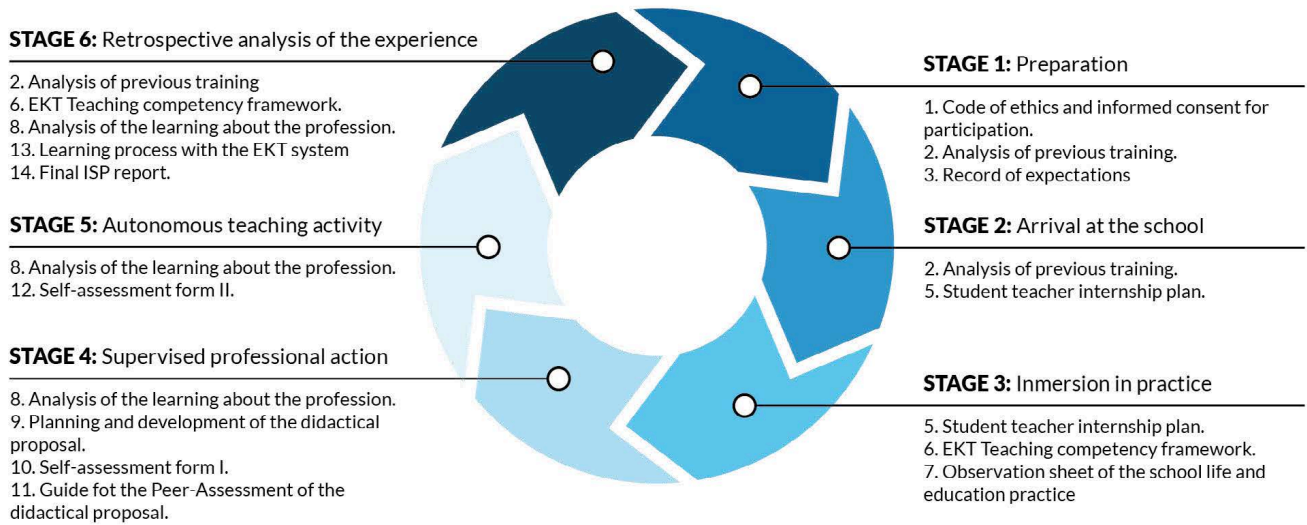


Figure 6: Instruments for the coordination between mentors of the EKT-ISP model

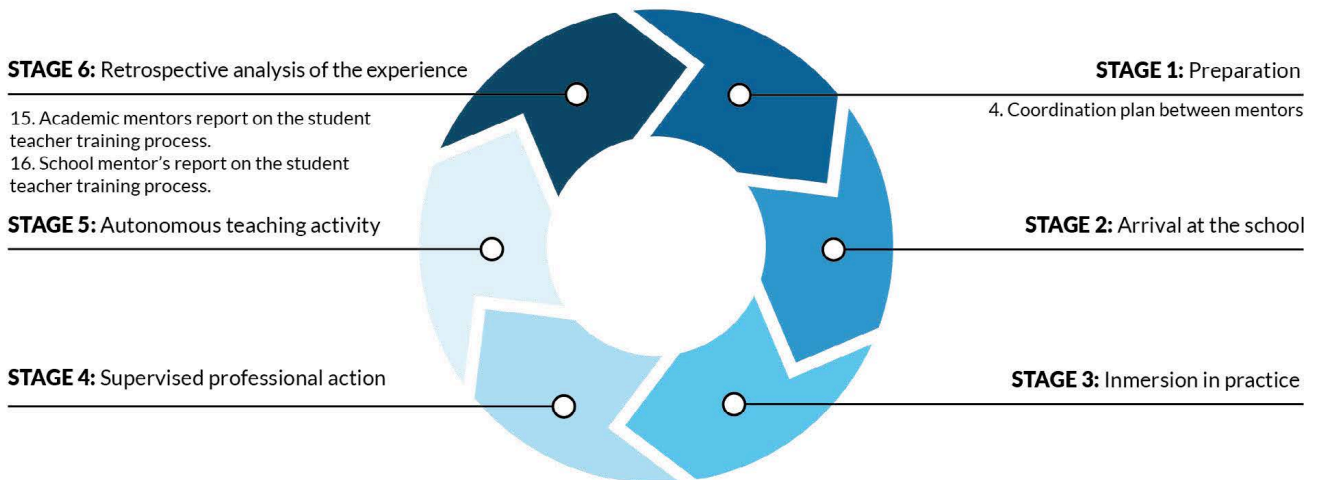


Figure 7: Instruments for the integral evaluation of the EKT-ISP model

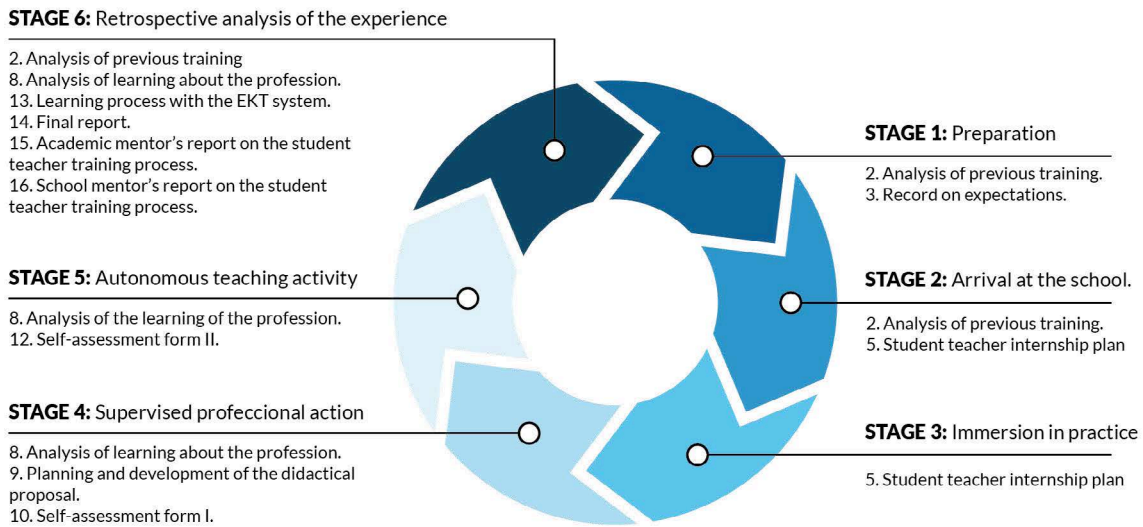
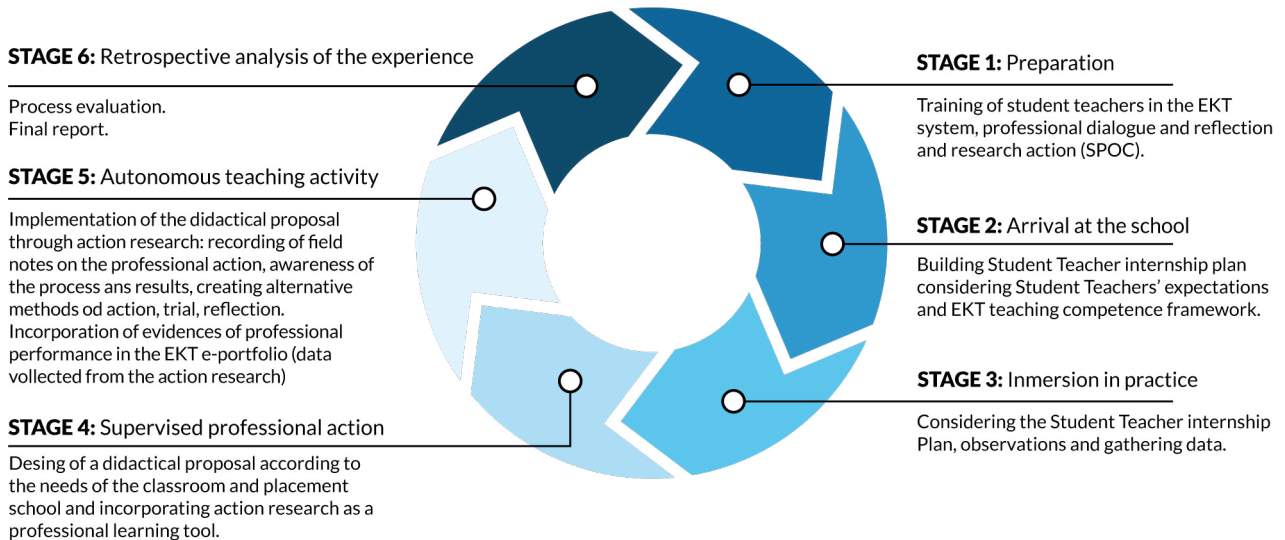
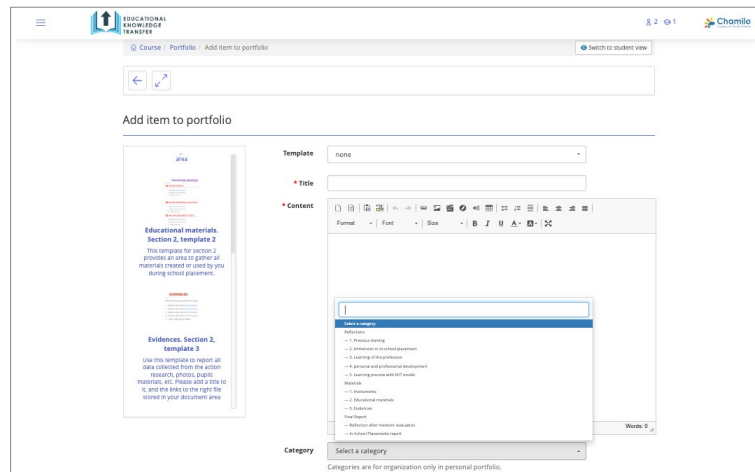


Figure 8: Action research in the EKT-ISP model



5.2.3. EKT e-portfolio instruments

Figure 9: Add instruments to the EKT e-portfolio



STAGE 1 PREPARATION

- Instrument 1: Code of ethics and informed consent for participation.
- Instrument 2: Analysis of previous training
- Instrument 3: Record of expectations
- Instrument 4: Coordination plan between mentors

STAGE 2 ARRIVAL AT THE SCHOOL

- Instrument 2: Analysis of previous training
- Instrument 5 Student teacher internship plan.

STAGE 3 IMMERSION IN PRACTICE

- Instrument 5 Student teacher internship plan.
- Instrument 6: EKT Teaching competence Framework.
- Instrument 7: Observation sheet of the school life and education practice.

STAGE 4 SUPERVISED PROFESSIONAL ACTION

- Instrument 8: Analysis of learning about the profession.
- Instrument 9: Planning and development of the didactical proposal.
- Instrument 10: Self-assessment form I.
- Instrument 11: Guide for the Peer-Assessment of the didactical proposal

STAGE 5 AUTONOMOUS TEACHING ACTIVITY

- Instrument 8: Analysis of learning about the profession.
- Instrument 12: Self-assessment form II.

STAGE 6 RETROSPECTIVE ANALYSIS OF THE EXPERIENCE

- Instrument 2: Analysis of previous training
- Instrument 6: EKT Teaching competence Framework.
- Instrument 8: Analysis of learning about the profession.
- Instrument 13: Learning process with the EKT system.
- Instrument 14: Final report
- Instrument 15: Academic mentor's report on the student teacher training process
- Instrument 16: School mentor's report on the student teacher training process

6. THE EKT INTELLIGENT SYSTEM AS A SUPPORT FOR THE IN SCHOOL PLACEMENT PROCESS

This section describes the technological architecture of the EKT system that guided the design of the first version of the system that was piloted in the 2021-22 academic year. The architecture included all the elements necessary to articulate the design of the EKT system based on the needs study conducted (WP2) and the educational framework designed and presented in the previous sections (WP3). This initial architecture was modified through successive approximations linked to the two pilot cycles foreseen in the project (academic year 2021-22 and 2022-23) until the final version of the system was created.

This section also presents the interface of the final version of the EKT system and the main tools that make up the EKT platform and that will help to implement the methodological proposal previously developed and respond to the improvement needs identified.

The EKT platform can be accessed with a test profile through the project website to interact with its functionalities and tools. All of them have been designed to promote interaction, collaboration, individualised monitoring and reflective learning during the In-School placement process following the EKT methodological proposal in a flexible way, that is, adapting it to the characteristics of each context.

6.1. EKT e-learning system architecture. User profiles, functions, digital tools and functionalities.

USER PROFILES, FUNCTIONS AND DIGITAL TOOLS		
Profile	Function description	Appropriate EKT tool and possible functionalities/actions
Academic Coordinator	Manages paperwork to assign Student Teachers to school placements	<ul style="list-style-type: none"> • Document tool: private folders to store all the related documents. • Onlyoffice: Edit/create/work with individual/collaborative documents online.
	Defines/select/negotiate school placements to know if there are vacancies or are able to receive Student Teachers	<p>No specific tool as each country has different protocols</p> <ul style="list-style-type: none"> • Document tool: possibility to share some documents through public links with the schools/administration during the recruitment/negotiations. • Communication tool: possibility to create public meetings to let schools/administration join during the recruitment/negotiations.
	Contacts schools placements	<ul style="list-style-type: none"> • Communication tool: public link for first talks during the school recruitment. • Management tool: Once the school is recruited and set-up into the system, the coordinator can look for all the contact info. • Communication tool: once the school is set-up within the system, possibility to contact via chat/videoconference
	Assigns students teacher to each school placement	<p>Management tool. 3 steps needed:</p> <ul style="list-style-type: none"> • Add new school/mentors to the system • Create user profiles for students (if still not created) • Assign students to school mentor (assign tool in schools list)
	Coordinates practicum guides and other materials (guides, agreements, etc)	<ul style="list-style-type: none"> • Document tool: Store and share the guides/materials. • Onlyoffice: Edit/create/work collaboratively with the documents
	Coordinates all/part Academic mentors	<ul style="list-style-type: none"> • Document tool: Custom/default shared folders • Communication tool: Individual/group communication via chat or videoconference. Embed/share documents from document tool directly into the chat/conference. • Calendar: set-up common appointments/deadlines • Management: List of coordinators/mentors
	Interacts with administration	<p>No specific tool as each country has different protocols</p> <ul style="list-style-type: none"> • Document tool: possibility to share some documents through public links with local/national administrations • Communication tool: possibility to create public meetings to let administration staff join • Management tool: Possibility to enable guest user accounts.
	Interacts with school coordinators	<ul style="list-style-type: none"> • Document tool: Custom/default shared folders • Onlyoffice: create/edit collaborative documents • Communication tool: Individual/group communication via chat or videoconference. Embed/share documents from document tool directly into the chat/conference. • Calendar: set-up common appointments/deadlines • Management tool: List of academic mentors
	Interacts with Academic mentors	<ul style="list-style-type: none"> • Document tool: Custom/default shared folders • Onlyoffice: create/edit collaborative documents • Communication tool: Individual/group communication via chat or videoconference. Embed/share documents from document tool directly into the chat/conference. • Calendar: set-up common appointments/deadlines • Management tool: List of academic mentors
	Communication/support with student teachers at higher level (if problems with school assigned, etc.)	<ul style="list-style-type: none"> • Communication tool: Individual/group communication via chat or videoconference. Embed/share documents from document tool directly into the chat/conference • Management tool: List of participant student teachers/personal data
Shares information with Academic admin staff	<ul style="list-style-type: none"> • Document tool: Store and share information through documents. • Communication tool: Individual/group communication via chat or videoconference to exchange verbal information. Embed/share documents from document tool directly into the chat/conference • Management tool: List of participant admins for the Academic institution 	

USER PROFILES, FUNCTIONS AND DIGITAL TOOLS		
Profile	Function description	Appropriate EKT tool and possible functionalities/actions
School Coordinator	Coordinates all student teachers coming to his/her school	<ul style="list-style-type: none"> • Documents tool: Store/share rules to follow with student teachers • Calendar: Share appointments and deadlines with students • Communication tool: (talk) • Management tool: List of participant student teachers and related contact data.
	Collaborates with all school mentors and with academic coordinator	<ul style="list-style-type: none"> • Document tool: Custom/default shared folders • Onlyoffice: Collaborative document creation/editing. • Communication tool: Individual/group communication via chat or videoconference. Embed/share documents from document tool directly into the chat/conference. • Calendar: set-up common appointments/deadlines • Management: List of school mentors/academic coordinators with contact data.
	Manages paperwork of students teachers in school	<ul style="list-style-type: none"> • Document tool: private folders to store all the related documents. • Onlyoffice: Edit/create/work with individual/collaborative documents online.
	Introduces student teacher to school, mentors	<ul style="list-style-type: none"> • Communication tool: If it's done online it can be set-up a welcome conference. • Notification system: Once a student teacher is assigned to some mentor/school a custom message/alert will appear presenting the data/contact info about the assigned school/mentor
	Supervises all students teachers in school	<ul style="list-style-type: none"> • Learning analytics: Access at school level. • E-portfolio: If needed, the school coordinator can be assigned to a course to be able to check student teachers e-portfolio
	Communicates with student teachers in school	<ul style="list-style-type: none"> • Communication tool: Individual/group communication via chat or videoconference. • Management tool: Check student teacher contact data (telephone, email, etc) • Group tool: Possibility to create a group per school to easily look for student teachers contact data

USER PROFILES, FUNCTIONS AND DIGITAL TOOLS		
Profile	Function description	Appropriate EKT tool and possible functionalities/actions
Academic Mentor	Supervises student teachers before, during and after school placement	<ul style="list-style-type: none"> • E-portfolio: Review, ask questions, mark, comment student e-portfolio • Learning analytics: Overview student teacher progress and usage statistics • Communication tool: Individual communication via chat or videoconference.
	Prepares documentation for student teachers and school (ethical docs, guideliness, feedback forms, etc.)	<ul style="list-style-type: none"> • Onlyoffice: Edit/create/work with documents online. • Document tool: private folders to store all the related documents.
	Interacts with students teachers individually	<ul style="list-style-type: none"> • Communication tool: Individual communication via chat or videoconference. • Calendar: share individual appointments/deadlines • Document tool: Share documents with the student teacher. • Onlyoffice: collaborative work with documents (comments/chat within document) • E-portfolio: Review, ask questions, mark, comment student e-portfolio
	Interacts with all his/her student teachers for each degree&practicum	<ul style="list-style-type: none"> • Communication tool: Groupal communication via chat or videoconference. • Calendar: share groupal appointments/deadlines • Document tool: Share documents with the student teacher. • Onlyoffice: collaborative work with documents (comments/chat within document) • Group tool: Possibility to create a group per degree/practicum to easily look for student teachers contact data
	Interacts with the group of students teachers in a school	<ul style="list-style-type: none"> • Communication tool: Groupal communication via chat or videoconference. • Calendar: share groupal appointments/deadlines • Document tool: Share documents with student teachers. • Onlyoffice: collaborative work with documents (comments/chat within document)
	Interacts with Academic coordinator	<ul style="list-style-type: none"> • Communication tool: Individual communication via chat or videoconference. • Calendar: share individual appointments/deadlines • Document tool: Share documents with the academic coordinator. • Onlyoffice: collaborative work with documents (comments/chat within document) • Management tool: List of academic coordinators and contact info
	Interacts with School coordinator	<ul style="list-style-type: none"> • Communication tool: Individual communication via chat or videoconference. • Calendar: share individual appointments/deadlines • Document tool: Share documents with the school coordinator. • Onlyoffice: collaborative work with documents (comments/chat within document) • Management tool: List of school coordinators and contact info
	Interacts with School mentor	<ul style="list-style-type: none"> • Communication tool: Individual communication via chat or videoconference. • Calendar: share individual appointments/deadlines • Document tool: Share documents with the school mentor. • Onlyoffice: collaborative work with documents (comments/chat within document) • Management tool: List of school mentors and contact info
	Follow up/evaluates/grade student teachers progress along with school coordinator.	<ul style="list-style-type: none"> • E-portfolio: Review, ask questions, mark, comment student e-portfolio • Document tool: Share each other evaluation/follow up reports. • Communication tool: Individual communication via chat or videoconference. • Learning analytics: Overview student teacher progress and usage statistics
	Interacts with his/her tutorized students teachers	<ul style="list-style-type: none"> • Communication tool: Individual communication via chat or videoconference. • Calendar: share individual appointments/deadlines • Document tool: Share documents with the student teacher. • Onlyoffice: collaborative work with documents (comments/chat within document) • E-portfolio: Review, ask questions, mark, comment student e-portfolio

USER PROFILES, FUNCTIONS AND DIGITAL TOOLS		
Profile	Function description	Appropriate EKT tool and possible functionalities/actions
School Mentor	Prepares documentation for student teacher and school with 1 collaboration of academic mentor (not always)	<ul style="list-style-type: none"> • Onlyoffice: Edit/create/work with documents online. • Document tool: private folders to store all the related documents.
	Prepares training/mentorize student teachers	<ul style="list-style-type: none"> • Training tool: Set-up the training course along the academic mentor • Onlyoffice: Create documents/cards/etc to be used by student teachers • Communication tool: Individual or group communication with student teachers via chat or videoconference. • Document tool: Store prepared documents and share them with student teachers. • Content creation tool: Create learning materials to be used by student teachers. • E-portfolio: Add contents to student teachers E-portfolio.
	Interacts with School coordinator	<ul style="list-style-type: none"> • Communication tool: Individual communication via chat or videoconference. • Calendar: share individual appointments/deadlines • Document tool: Share documents with the school coordinators. • Onlyoffice: collaborative work with documents (comments/chat within document) • Management tool: List of school coordinators and contact info
	Interacts with academic mentor	<ul style="list-style-type: none"> • Communication tool: Individual communication via chat or videoconference. • Calendar: share individual appointments/deadlines • Document tool: Share documents with the academic tutor. • Onlyoffice: collaborative work with documents (comments/chat within document) • Management tool: List of academic tutors related with assigned student teachers.
	Receives training from HEI	<ul style="list-style-type: none"> • Training tool: Access to the SPOC course for school mentors • Communication tool: Individual or group communication with HEI staff providing training.

USER PROFILES, FUNCTIONS AND DIGITAL TOOLS		
Profile	Function description	Appropriate EKT tool and possible functionalities/actions
Student Teacher	Carry out an individualized training progra	<ul style="list-style-type: none"> • Training tool: Custom learning paths per student if needed • E-portfolio: Custom learning/reflexive process during the training program
	Create products (training materials, learning journal, contents, reports...)	<ul style="list-style-type: none"> • Content creation tool: Create learning materials to be used during the ISP • Onlyoffice: Create different types of documents, presentations, spreadsheets, schemas, etc.
	Fills in ethical docs (regarding work with underage students, deontological commitment)*not always	<ul style="list-style-type: none"> • Onlyoffice: Fills in/ edit documents online • Document tool: Store and share documents with mentors/coordinators.
	A student teacher can be enrolled in several practicum in the same school year	<ul style="list-style-type: none"> • Group tool: Possibility to add a student teacher to several groups • Training tool: Possibility to add a student teacher to several training courses.
	Interacts with Academic coordinator	<ul style="list-style-type: none"> • Communication tool: Individual communication via chat or videoconference. • Calendar: share individual appointments/deadlines • Document tool: Share documents with the academic coordinator. • Onlyoffice: collaborative work with documents (comments/chat within document) • Management tool: List of academic coordinators and contact info
	Interacts with School coordinator	<ul style="list-style-type: none"> • Communication tool: Individual communication via chat or videoconference. • Calendar: share individual appointments/deadlines • Document tool: Share documents with the school coordinator. • Onlyoffice: collaborative work with documents (comments/chat within document) • Management tool: List of school coordinators and contact info
	Interacts with academic mentor	<ul style="list-style-type: none"> • Communication tool: Individual communication via chat or videoconference. • Calendar: share individual appointments/deadlines • Document tool: Share documents with the academic mentor. • Onlyoffice: collaborative work with documents (comments/chat within document) • Management tool: List of academic mentor and contact info • E-portfolio: Receive reviews, ask questions, get marks, from academic mentor
	interacts with school mentor	<ul style="list-style-type: none"> • Communication tool: Individual communication via chat or videoconference. • Calendar: share individual appointments/deadlines • Document tool: Share documents with the school mentor. • Onlyoffice: collaborative work with documents (comments/chat within document) • Management tool: List of school mentors and contact info • E-portfolio: Receive reviews, ask questions, get marks, from school mentor
	Interacts with the group of students teachers in a school]***	<ul style="list-style-type: none"> • Communication tool: Individual communication via chat or videoconference. • Calendar: share individual appointments/deadlines • Document tool: Share documents with fellow student teacher. • Onlyoffice: collaborative work with documents (comments/chat within document)
	Interacts with fellow student teachers in his/her practicum/degree	<ul style="list-style-type: none"> • Communication tool: Individual communication via chat or videoconference. • Calendar: share individual appointments/deadlines • Document tool: Share documents with fellow student teachers. • Onlyoffice: collaborative work with documents (comments/chat within document) • Management tool: List of fellow student teacher and related contact info
Interacts with guests	<ul style="list-style-type: none"> • Tools available depending on the privileges given to the guest user 	

USER PROFILES, FUNCTIONS AND DIGITAL TOOLS		
Profile	Function description	Appropriate EKT tool and possible functionalities/actions
Guest (counsellor, support staff, school principal, etc.)	Access to system, processes and users	<ul style="list-style-type: none"> • User management: Add guest users to the system related to certain HEI institution
	Interacts with Academic coordinator	Tools available depending on the privileges given to the guest user
	Interacts with School coordinator	
	Interacts with Academic mentor	
	interacts with school mentor	
	Interacts with the group of students teachers in a school	
	Interacts with individual students teachers	
	Provides documentation for students teachers	

6.2. EKT e-learning platform. Interface and main tools

This section presents the interface of the final version of the EKT system and the main tools that make up the EKT platform and that will help to implement the methodological proposal previously developed and respond to the improvement needs identified.

The EKT Learning platform has a **desktop version** and a free app developed for android that can be downloaded from the google store.

In the EKT website resources section of the website are available demo accounts to access the different profiles and test the EKT system in its desktop and mobile version (App).

Access to virtual collaborative and learning In-School Placement environment (the EKT elearning Platform).

<https://app.ektproject.eu/>

Figure 10: EKT elearning platform access

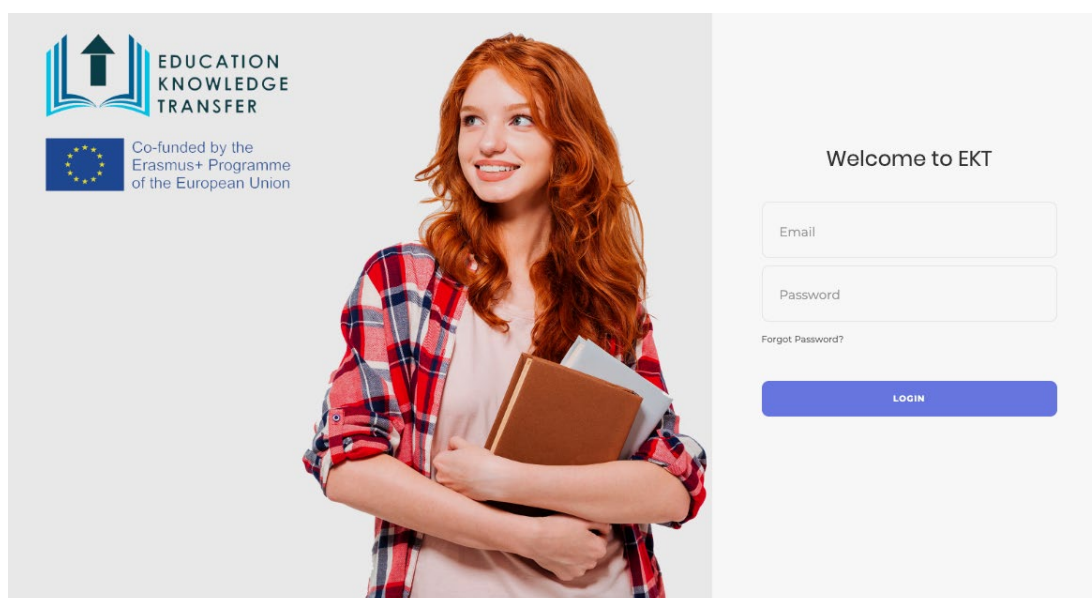
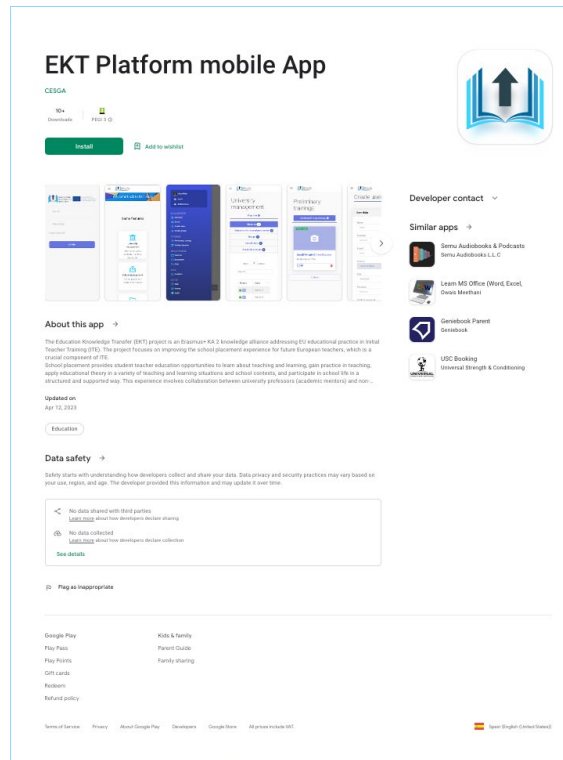


Figure 11: EKT Platform mobile App



6.2.1. EKT e-learning Platform Interface, Dashboard

Each user profile has a personalised dashboard with the most used tools according to their profile and a navigation bar that allows them to access all the tools of the system.

Figure 12: EKT System Administrator Interface and Dashboard

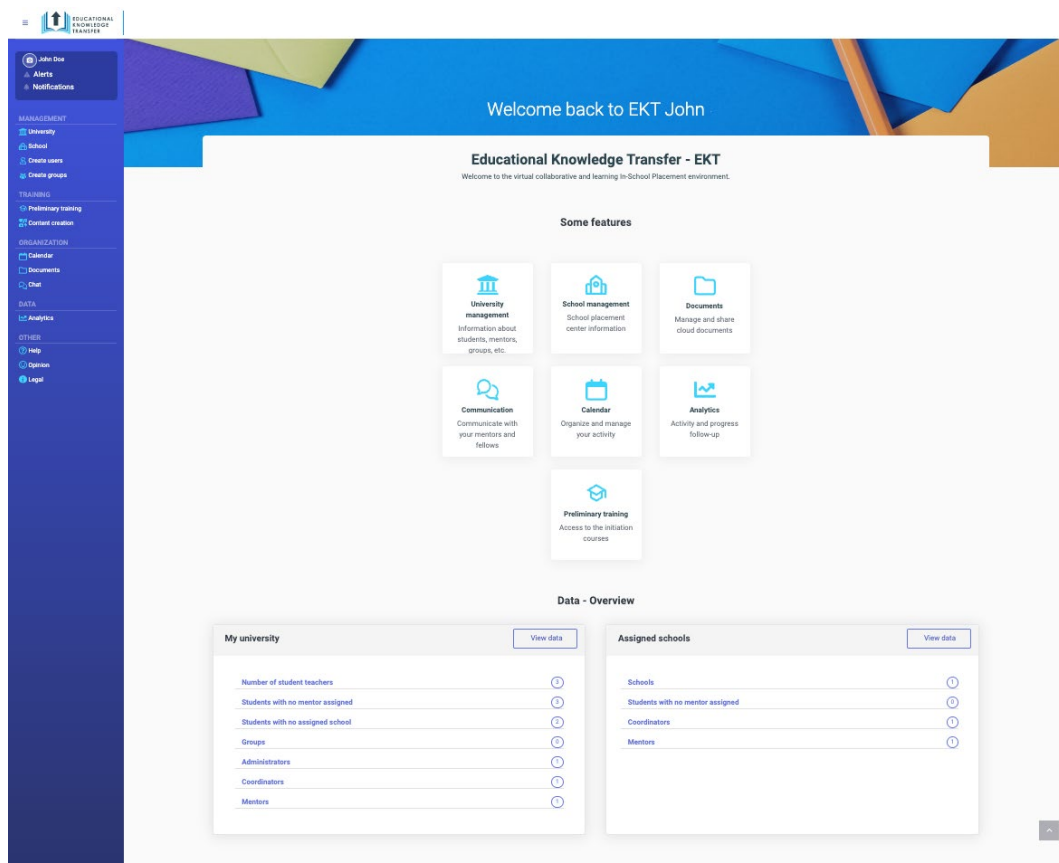


Figure 13: Coordinator Interface and Dashboard

Coordinator Interface and Dashboard

Welcome back to EKT Phoebe

Educational Knowledge Transfer - EKT
Welcome to the virtual collaborative and learning In-School Placement environment.

Some features

- University management**: Information about students, mentors, groups, etc.
- School management**: School placement center information
- Documents**: Manage and share cloud documents
- Calendar**: Organize and manage your activity
- Analytics**: Activity and progress follow-up
- Preliminary training**: Access to the initiation courses

Data - Overview

My university		Assigned schools	
	View data		View data
Number of student teachers	3	Schools	1
Students with no mentor assigned	3	Coordinators	1
Students with no assigned school	2	Students with no mentor assigned	0
Groups	0	Mentors	1
Coordinators	1		
Mentors	1		

Figure 14: Mentors Interface and Dashboard

Mentors Interface and Dashboard

Welcome back to EKT Rebecca

Educational Knowledge Transfer - EKT
Welcome to the virtual collaborative and learning In-School Placement environment.

Some features

- Documents**: Manage and share cloud documents
- Communication**: Communicate with your mentors and fellows
- Calendar**: Organize and manage your activity
- Analytics**: Activity and progress follow-up
- Preliminary training**: Access to the initiation courses

Data - Overview

My university		Assigned schools	
	View data		View data
Students	0	Schools associated with my students	0
Groups	0	School mentors associated to my students	0
Coordinators	0		

Figure 15: Student Teacher Interface and Dashboard

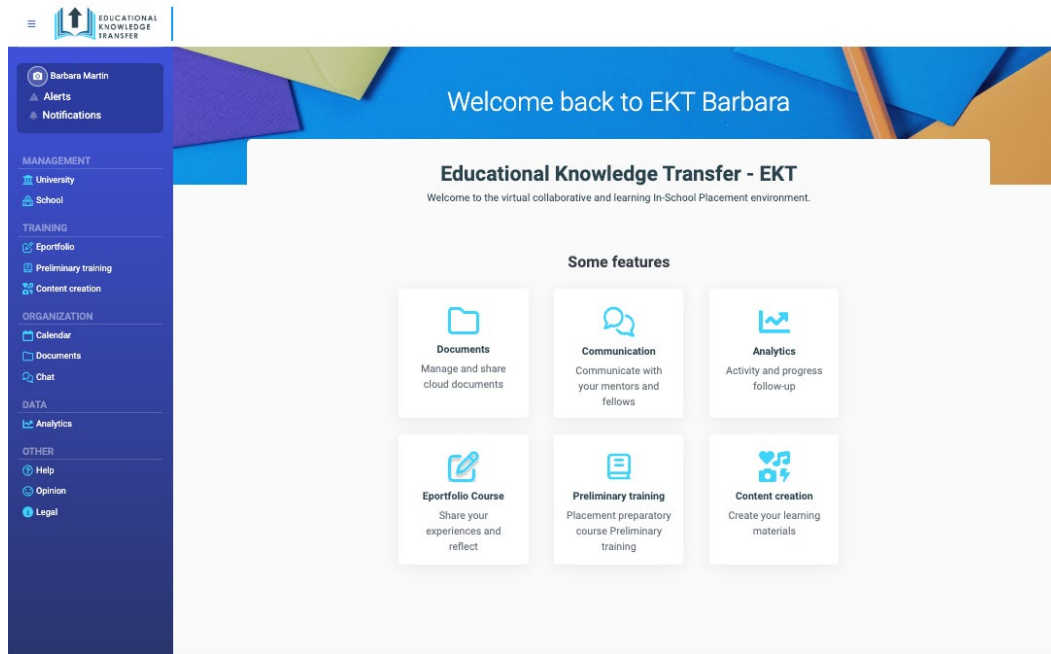
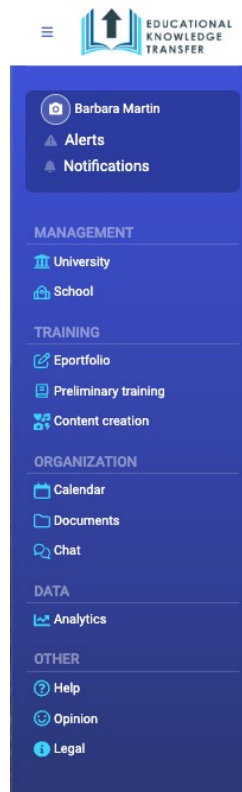











Figure 16: Main navigation menu



6.2.2. EKT Platform Tools

EKT e-learning Platform offers nine integrate tools that support the EKT methodology and facilitate the development of the three pillars of the EKT system from the triadic relationship: Collaboration-communication, autonomous and reflective learning and individualised monitoring of the student during the teaching practices. All the EKT tools contribute by providing information to the learning analytics.

Figure 17: Virtual collaborative and learning In-School Placement tools

 Documents Manage and share cloud documents	 Communication Communicate with your mentors and fellows	 Calendar Organize and manage your activity
 Preliminary training Placement preparatory course Preliminary training	 Eportfolio Course Share your experiences and reflect	 Content creation Create your learning materials
 University management Information about students, mentors, groups, etc.	 School management School placement center information	 Analytics Activity and progress follow-up

6.2.3. Preliminary Training: Platform and Contents (SPOC)

Figure 18: Preliminary training: EKT training platform: Chamilo customisation

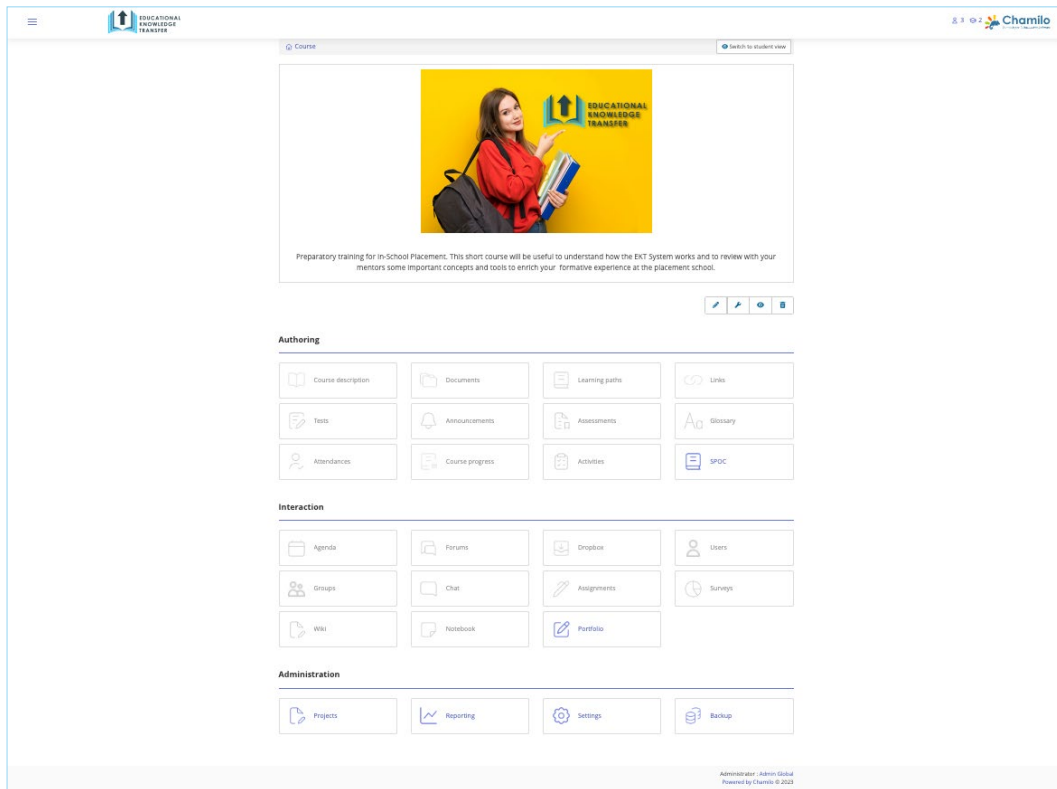
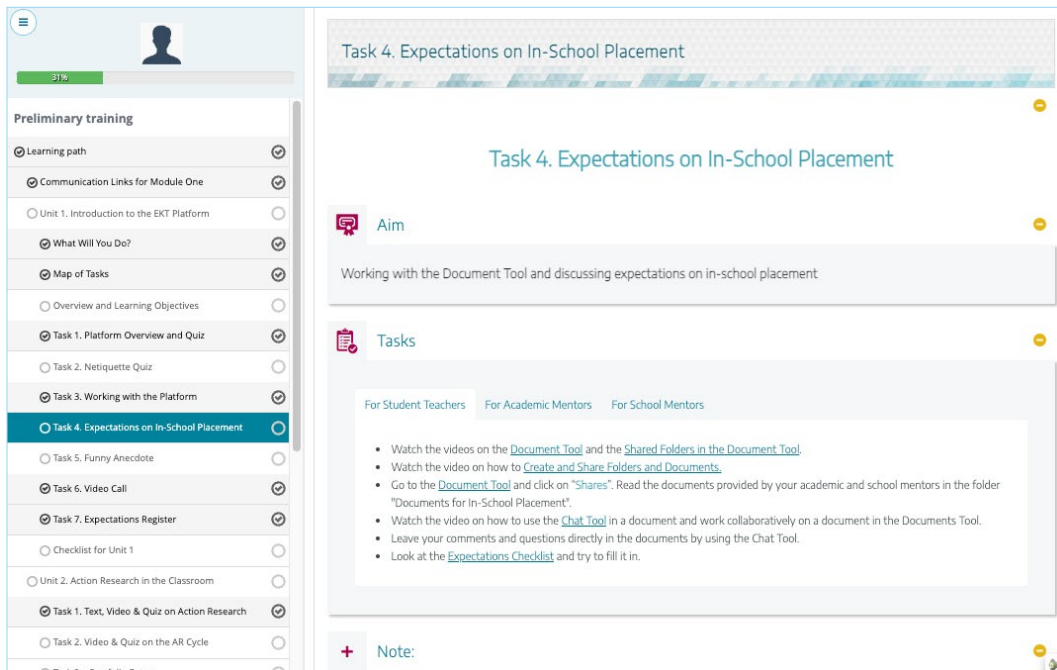


Figure 19: Preliminary training: EKT SPOC



6.2.4. E-portfolio

Figure 20: EKT e-portfolio

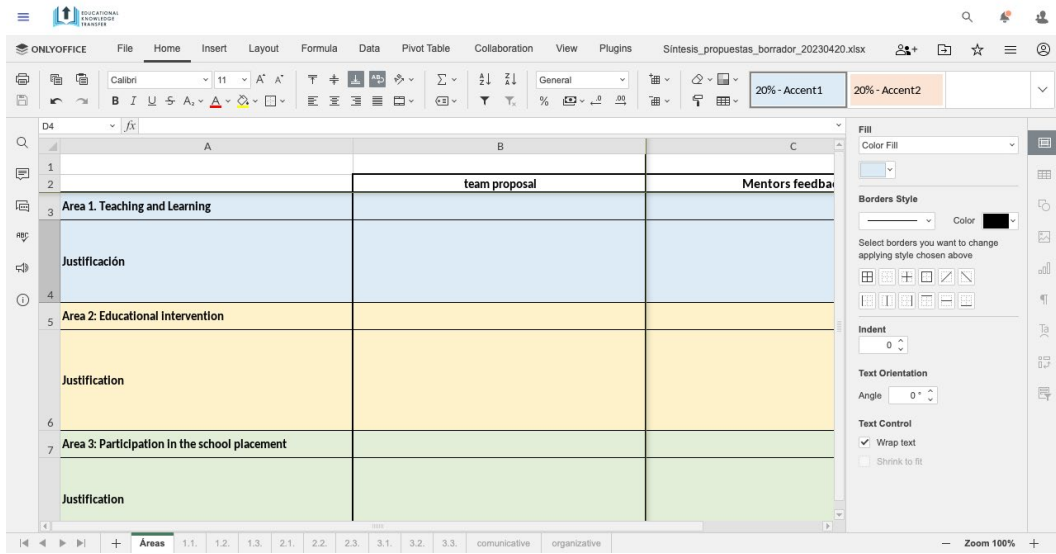
The screenshot displays the EKT e-portfolio interface. At the top, there is a navigation menu with a hamburger icon, the logo for 'EDUCATIONAL KNOWLEDGE TRANSFER', and a user profile icon. Below the navigation, there is a search bar and a button labeled 'Cambiar a "Visa de estudiante"'. The main content area is titled 'Portafolio' and features a sidebar with filters for 'Seleccionar un portafolio de estudiante', 'Fecha de creación', 'Etiquetas', and 'Buscar'. The main content area shows a post titled 'Compartiendo el material creado con Chamilo estudio' with a date of creation 'hace 6 meses' and 'Última modificación: hace 6 meses'. The post text reads: 'En la última unidad del curso aprendemos a diseñar un sencillo material didáctico con la herramienta de la plataforma EKT que se llama a chamilo estudio. Os creamos esta entrada específica en el por folio del curso para que compartáis aquí los materiales que vais creando. Mucho ánimo Carmen'. Below the post, there are three comments, each with a date of creation (hace 4 meses, hace 5 meses, and hace 5 meses) and a text description.

6.2.5. Documents: Cloud and Collaborative editor

Figure 21: EKT Documents (Cloud)

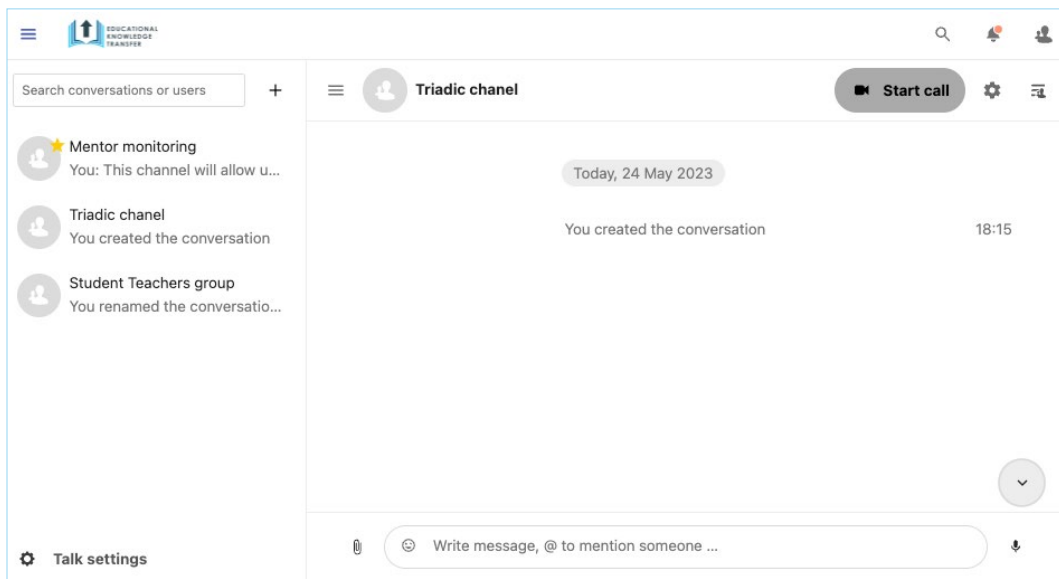
The screenshot displays the EKT Documents (Cloud) interface. On the left, there is a sidebar with navigation options: 'All files', 'Recent', 'Favorites', 'Shares', and 'Tags'. The main content area shows a file explorer view with a search bar and a list of files and folders. The list includes folders for 'Talk', 'Chat', and 'Coordination Colchest...', each labeled 'Recently edited'. Below this, there is a table with columns for 'Name', 'Size', and 'Modified'. The table lists several files, including 'Chat', 'Coordination all Mentors', 'Coordination Colchester - EKT University', 'Schools - University Coordination', 'Talk', and 'University Coordinators', all with a size of '0 KB' and a modification time of '2 months ago' or 'seconds ago'. At the bottom of the table, it shows '6 folders' and '0 B'.

Figure 22: EKT Documents (Collaborative editor)



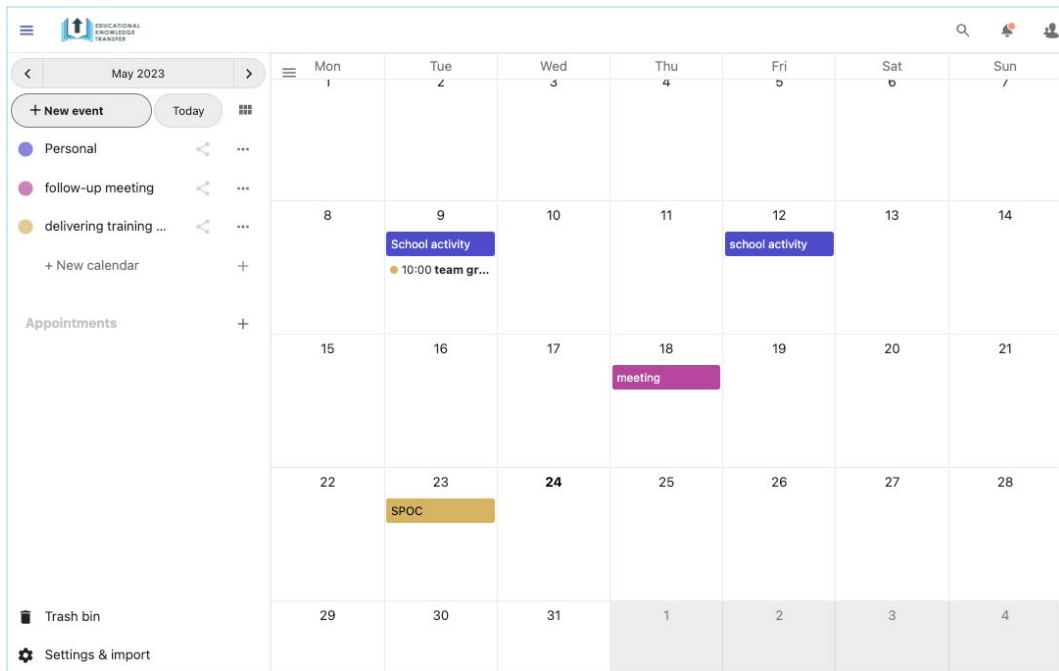
6.2.6. Communication

Figure 23: EKT Communication



6.2.7. Calendar

Figure 24: EKT Calendar



6.2.8. EKT Management tools

Figure 25: EKT User management (University)

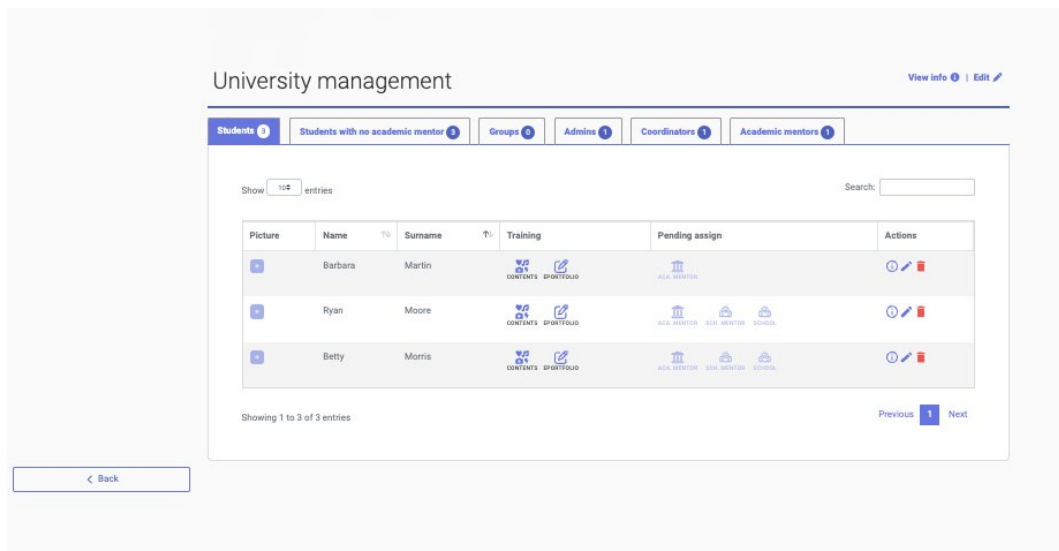


Figure 26: EKT User management (Placement Schools)

The screenshot shows the 'School management' interface. At the top right is a 'Create schools' button. Below it are tabs for 'Schools' (1), 'Students with no academic mentor' (2), 'Coordinators' (1), and 'Mentors' (1). The main area displays a table with columns: Name, Type, Code (Internal Identifier), School ownership, Town, and Actions. One row is visible for 'Colchester', a 'K12 school' with code 'SCHDEM03', 'Public' ownership, and 'Colchester' town. A search bar and pagination controls are also present.

Name	Type	Code (Internal Identifier)	School ownership	Town	Actions
Colchester	K12 school	SCHDEM03	Public	Colchester	[Icons]

6.2.9. EKT Learning Analytics

Figure 27: EKT Learning Analytics (Tools Access)

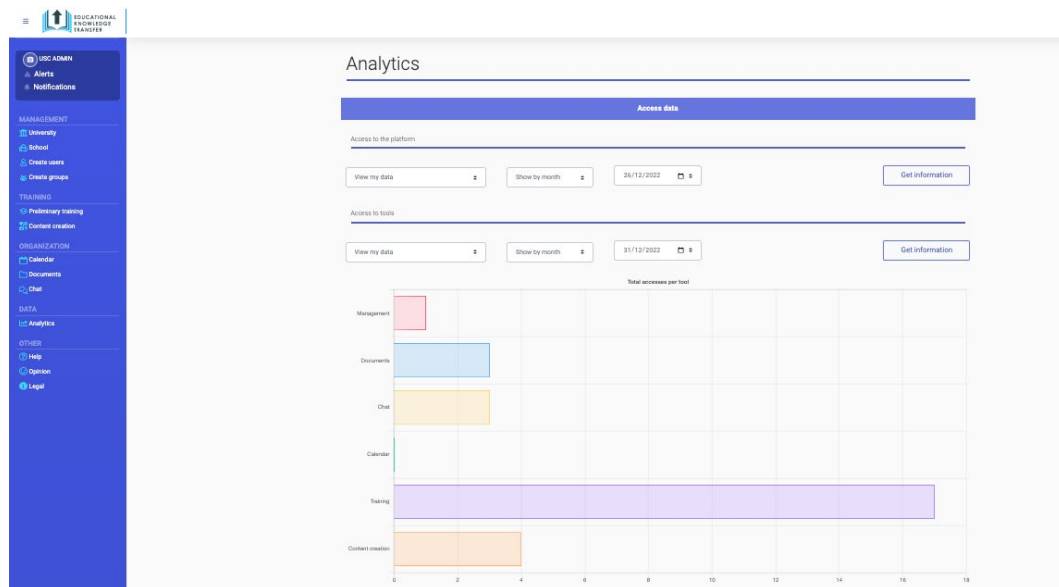


Figure 28: EKT Learning Analytics (Training Data)

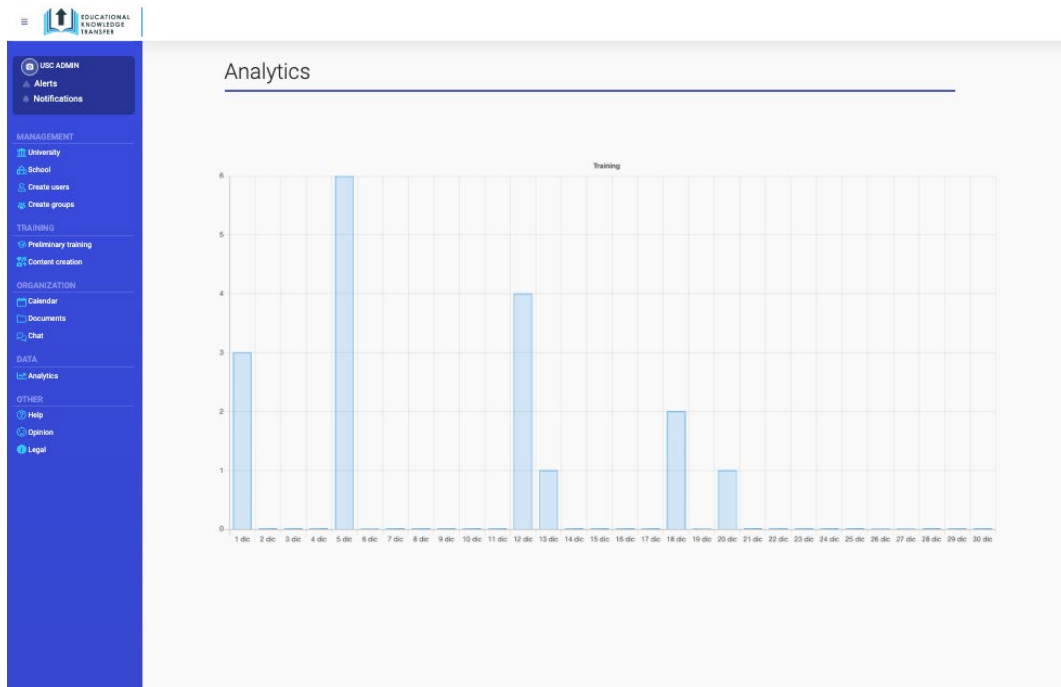
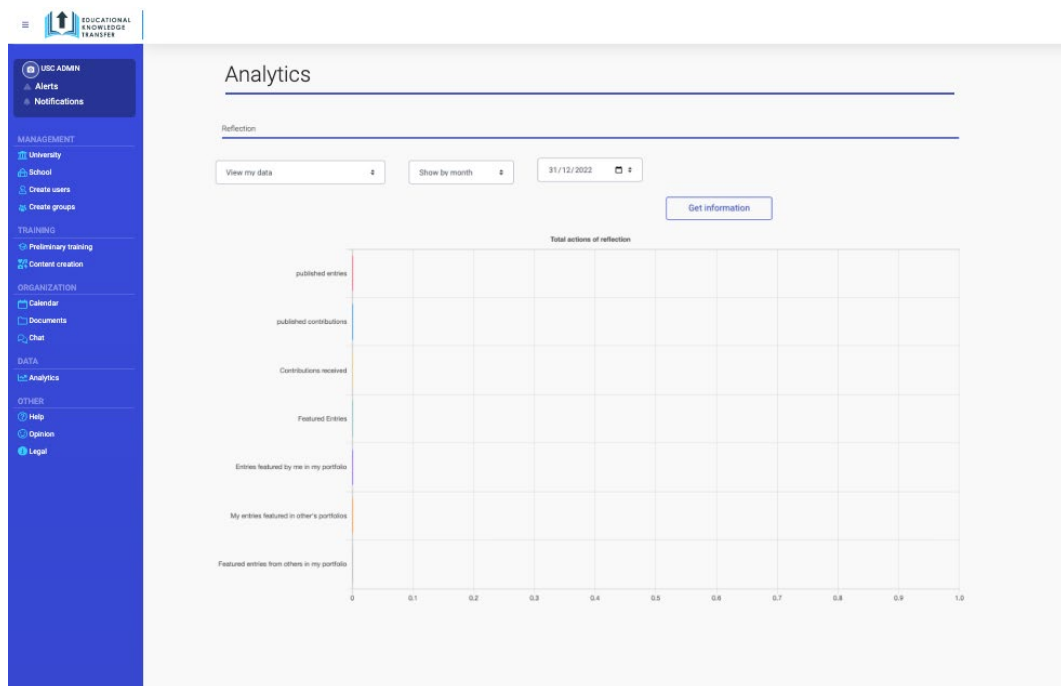


Figure 29: EKT Learning Analytics (Reflection Data)



7. ANNEXES

Guidelines and specifications for the design of the intelligent EKT system ([Excel file](#))

8. REFERENCES

Hall, K., Murphy, R., Rutherford, V., & NiAngleis, B. (2018). School Placement in Initial Teacher Education.

Brandçao Carvalho, J. A, Fernández-Morante, C. et al. (2023). Report on in-school placements needs and possibilities of the technologies (EKT Output 5). Universidade do Minho. Instituto de Educação. Centro de Investigação em Educação. <https://doi.org/10.5281/zenodo.7806236>

Fernández-Morante, C., Cebreiro-López, B., Rodríguez-Malmierca, M.-J., & Casal-Otero, L. (2021). Adaptive Learning Supported by Learning Analytics for Student Teachers' Personalized Training during in-School Practices. *Sustainability*, 14(1), 124. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/su14010124>



Project Partners



Universidade do Minho

Editor:

Santiago de Compostela: Grupo de investigación de
Tecnología Educativa (USC). <https://www.tecnoeduc.es>