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Context of utilization

A teacher has for each pupil several profiles from different sources -ILE and paper assessments- and for several disciplines.

He wants to use these profiles globally:

- to provide, for each learner, personalized exercise sheets;
- to define parameters of ILE so that they propose sessions fitting each learner's profile.

Example of utilization

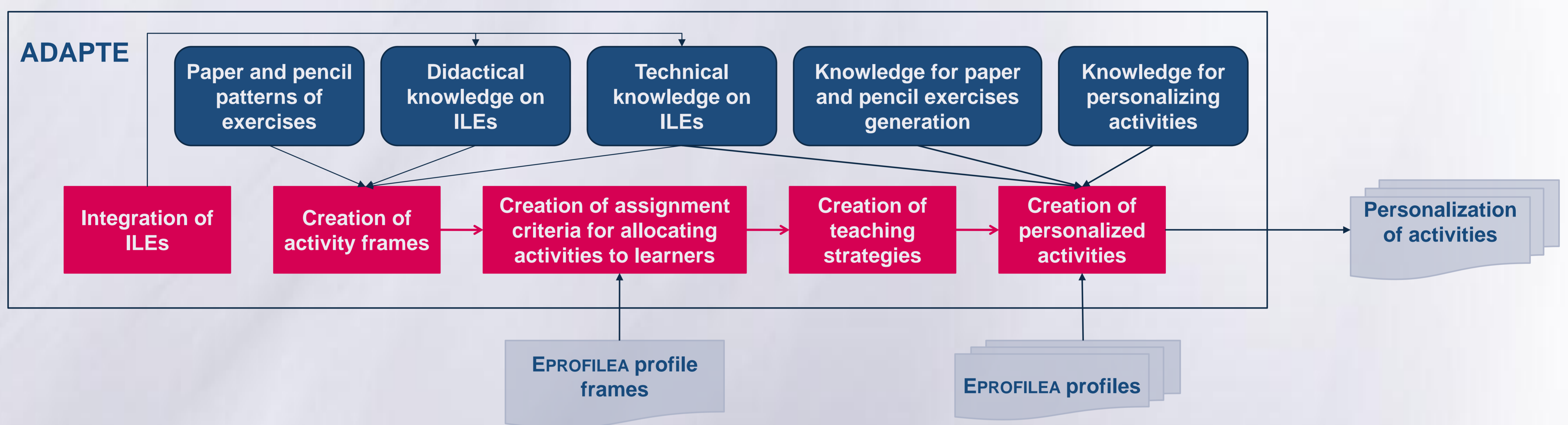
A teacher uses in his classroom an ILE on geography with his eight-year-old pupils and organizes, for all his pupils, the national assessments due at the beginning of the year. He has, for each pupil, a computerized profile on geography and a paper profile on mathematics and French.

He wants for each pupil:

- to create an exercise sheet on French and mathematics so that they work with autonomy;
- to define parameters of the ILE on geography so that it proposes personalized sessions lasting one hour.

Our proposition

- The PERLEA project proposes an environment, EPROFILEA, allowing the teacher to describe the structure of the profiles of its students and to integrate data from several sources (ILE and paper). By using this environment, teachers have, for each student, a profile containing data from all disciplines.
- One possible exploitation of these profiles is proposed by the ADAPTE module. This module allows the teacher to generate a personalization for each profile. This personalization is either an individual paper exercise sheet or a session on an ILE suited to the learner's profile.



Knowledge bases	Author	Goal	Content	Dependence on the domain	Example
Paper and pencil patterns of exercises	Included in ADAPTE	To generate paper exercises	Pattern: theoretical definition of a class of exercise frames Exercise frame: set of constraints allowing to create an exercise of a particular type	Patterns: independent of the domain Exercise frames: dependent of the domain	Pattern: Organization of items Exercise frame: Sorting numbers in ascending order
Knowledge for paper and pencil exercises generation	Included in ADAPTE	To generate paper exercises	8 semi-automatic generators with their own knowledge bases	Generator: independent of the domain Generator knowledge bases: dependent of the domain covered by the exercise	"Organization of items" generator with its knowledge of mathematics, its text bases...
Didactical and technical knowledge on ILEs	Supplied by an expert or by ILE designers	To personalize ILEs	Didactical: anything that affects the teaching content introduced in the ILE Technical : how to act on the ILE	Suited to each ILE and thus to a domain	Didactical: discipline, studied skills... Technical: file locations, available generators, exercise bases...
Knowledge for personalizing activities	Included in ADAPTE	To create a paper exercise sheet or a personalized session on an ILE	Rules allowing to implement teaching strategies on each learner's profile	Independent of the domain and the ILE	If the number of affected exercises is lower than the minimum number of exercises needed then add exercises starting with those with the highest priority level and finishing with those with the lowest one

Mechanism steps	Actor	Goal	Actions	Temporality
Integration of the ILEs	Expert or designer of the ILE to personalize	For each ILE, to integrate technical and didactical knowledge	Description of ILE didactical knowledge through the language provided in ADAPTE Description of technical knowledge and their links with didactical knowledge	Compulsory but it is required only once
Creation of activity frames	Teacher	To define activities corresponding to his work habits	For an exercise sheet, selection of an exercise pattern and of generation constraints For a session on an ILE, selection of exercise generation constraints via the generator of the ILE or exercise selection constraints in the ILE data bases	When creating a teaching strategy
Creation of assignment criteria for allocating activities to learners	Teacher	To make a link between parts of the learners profile and activity frames	Selection of a profile element (knowledge, behavior...) and the level of that element (score between 10 and 15, mastered...) Link with the exercise frames that will be used to generate an exercise	When creating a teaching strategy
Creation of teaching strategies	Teacher	To organize in a hierarchy the assignment criteria	Selection and scheduling of allocation criteria according to their level of importance	When creating a teaching strategy
Creation of personalized activities	System	To create paper exercise sheets or personalized sessions on ILE	From learners profiles, teaching strategies and personalization knowledge System choices are proposed to the teacher for validation	When applying a teaching strategy