ILDE+ D-TIPS: an Integrated Learning Design Environment to support Design Thinking in Primary Schools

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Abstract: Equipping teachers with appropriate tools and methods to impart innovative teaching practice and support their competence profile development is of high priority according to European educational policies. Previous studies have shown the benefits of integrating design thinking in educational settings as a teaching practice, but also it has been shown the need to support teachers in this process. This paper presents the D-TIPS platform aimed to build a transnational community of teachers and schools with interest in collaboration, (co)creation and exchange of knowledge about design thinking.

Introduction: the ILDE+ D-TIPS platform

Design Thinking (DT) promotes the ability to use a systematic process to understand people and situations, define problems, and come up with innovative solutions (Luka, 2014). But, as Hennessey and Mueller discuss in (2020), while DT is being readily adopted in education, little is known about how teachers integrate DT across the curriculum, or the challenges faced by educators. In this context, D-TIPS (Design Thinking in Primary School) is a three year (2019-2022) Erasmus+ project focused on understanding teachers' needs and empowering them with tools to apply DT in education. The project is rooted on research that clearly demonstrates that the competences in the core of the DT mindset are critical to the integral development of learners and to their success (Johansson-Sköldberg et al 2013). Our approach is based on building an online community (OC) of teachers interested in DT. Previous studies have shown that OCs provide a source of continuous professional development for teachers as they are able to deliver authentic and personalized opportunities for learning (Gutierrez-Paez et al, 2021). The data collected so far (Rogers et al, 2020) has been used to propose a prototype: ILDE + D-TIPS (https://ildeplus.upf.edu/DTIPS/). This is a minimum viable product based on ILDE (Hernández-Leo et al, 2018). ILDE + is aimed to support (co)creation, collaboration and sharing of learning designs (LDs). The following sections present the innovative features of this platform:

Figure 1 *(a) D-TIPS toolbox (b) My project journey an authoring tool to document learning designs*
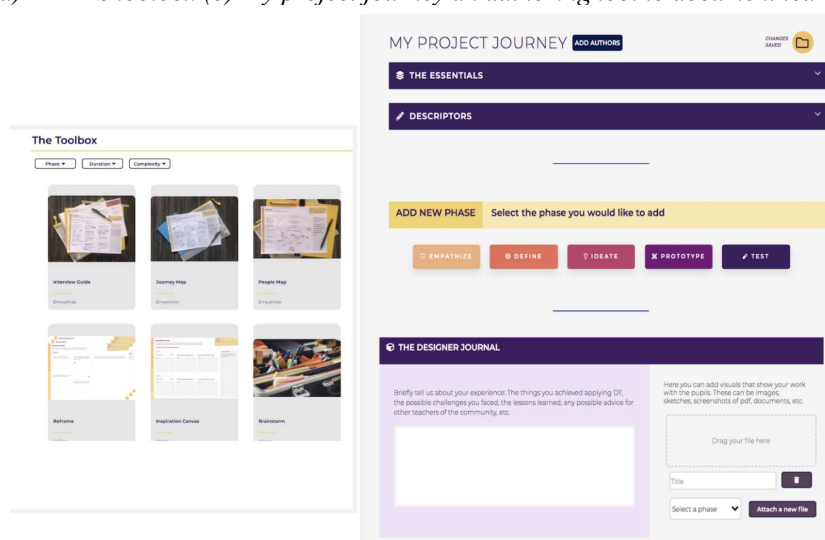


DTIPS Toolbox and My Project Journey authoring tool

The 'D-TIPS toolbox' (Figure 1a) is aimed to provide access to a collection of editable canvases including a wide range of DT activities to run in the classrooms. The tools can be used in My project Journey (Figure 1b) to (co)create customized learning designs (LD) by using a dynamic template with: metadata 'The essentials' and 'Descriptors'; DT phases with the corresponding tools, reflections and self-assessment (after implementation);

and the 'Designer Journal' aimed to attach evidences. The design can be edited along different periods of time, saved as a private draft or be shared publicly with the D-TIPS community under a Creative Commons license.

Community and Repository

All members of the community (Figure 2a) have access to features such as a: follow/unfollow, like, and design counters of contributions (projects created within the platform), total number of followers and total number of following. Users are able to access the individual profiles of the community members and explore a brief biography and the projects they have created. A notifications' system allows users to be updated about new available content or actions performed within the platform, as for instance actions happening in the repository (Figure 2b) such as: like a design (liked LDs are automatically saved in 'my personal space'); duplications of designs, comments and views.

Figure 2 *(a) Members of the community section (b) Repository with two learning designs,*
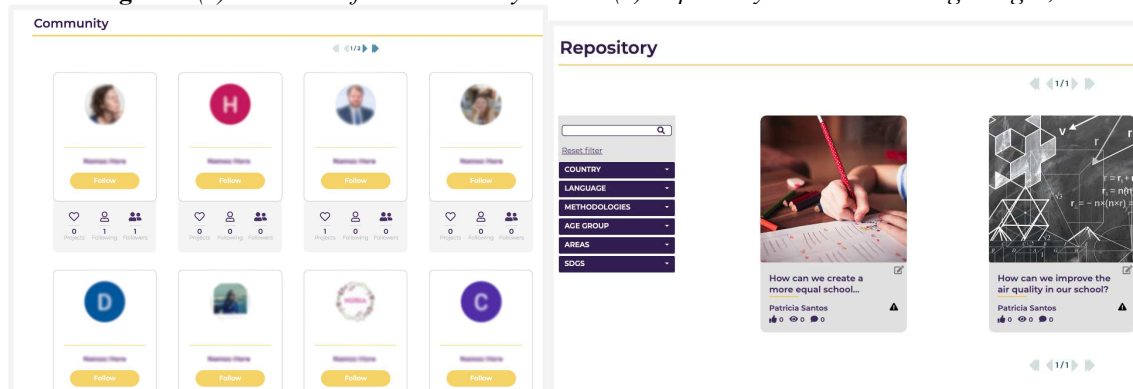
2 Conclusions and future work

We want to analyze how users behave with the system and especially how they (co)create LDs using the resources and features of the platform. In order to guarantee a preliminary collection of data, our plans include the organization of pilots in four different European countries: Spain, Belgium, Romania and Lithuania. In addition, this will give us the opportunity to understand how the transnationally online community of teachers/educators with interest in DT is built and used.

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