

Dr. Dury Bayram Jacobs (Erasmus+ project)

Project title:	Progression and Pedagogy of Design: Contextualizing Design based Pedagogy in Teacher Education Programs
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Project Coordinator	Usak University, Turkey (Dr. Ibrahim Delen)
Project leader:	Dr. Dury Bayram Jacobs (TU/e)
Research Team:	Dr. Cui Ping (postdoc) and Ir. Elise Quant
Consortium	Usak University, Turkey Eindhoven University of Technology, the Netherlands Dokuz Eylul University, Turkey Universidad De Santiago De Compostela, Spain Universita Degli Studi Di Padova, Italy

In Europe, there is a decline in students choosing science-related careers (Osborne & Dillon, 2008). This trend has an influence on the students choosing to become STEM (science, technology, mathematics, engineering) teachers. The review of STEM education policies in 14 European countries revealed the need for “attracting more students and teachers to STEM education” (European Schoolnet, 2018, p. 3). Osborne and Dillon (2008) suggested revising the school curriculum to educate future scientists and engineers to overcome this problem. In the last decade, several countries started to make updates in their K-12 and teacher education curriculum, emphasizing design-based learning (NASEM, 2019; NRC, 2014; European Schoolnet, 2018).

While studies across Europe have been searching for design-based pedagogy (Delen & Uzun, 2018; Nicholl al., 2013; Putter-Smits et al., 2012), there is a lack of consensus across teacher education programs (Puente et al., 2013). Connected with this gap, European Schoolnet (2018) suggests the following for European teacher education programs “developing a common European framework of reference for STEM education and coordinating national STEM initiatives related to publishing pedagogical content to ensure teachers’ needs are being met” (p. 3).

This project aims to find a common framework for teacher education programs with an emphasis on design-based pedagogy. The primary goal in this project is to continue to examine interdisciplinary connections in teacher education programs (Ball & Forzani, 2009) to develop “common tools for inquiry” (Grossman & McDonald, 2008 p. 198) with an emphasis on a common design-based framework. As presented above, European countries continue to emphasize design without having a common framework. This project aims to target this gap. To show how design-based pedagogy can be contextualized across European countries, a transnational connection is necessary. Partners will create this common framework; partners will implement this framework with pre-service teachers; partners will reach teachers and teacher educators who can use this framework. In this way, the project aims to target the missing consensus across European teacher education programs. The target groups are pre-service teachers and teacher educators as the project team creates the booklet of design-based pedagogy. Then the project team will reach out to middle school and high school teachers to create eTwinning projects.