

# Attitudes to Thinking and Learning in Sustainability Education – Case Basics of Natural Stone Industry in CE

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## Abstract

Education for sustainable development (ESD) aims to provide students with the attitudes, values, and behaviors necessary for the contribution for the sustainability. The research was implemented as a part of the Horizons Europe research project, where each partner organisation had locally at least one pilot project. The pilot in question was an online course about the basics of natural stone industry in Finland and its sustainability and circular economy aspects. The course was open for all students at applied universities in Finland and it was implemented twice during the research. The local context and real-life provider was the Stone from Finland association, which participated in the course design. The multiple case-study method was chosen, as it enables purposeful sampling of cases that tailor to the specific study. It was also assumed that it predicts quite similar results of two different course implementations of the course with the same topic and content. The Curtin University of Technology's Attitudes Towards Thinking and Learning Survey was adapted. The results show the importance of trans-disciplinary nature of sustainability education. In addition, the new industry areas with the general - but also industry specific sustainability issues - must be introduced to students and encourage them to do critically reflective learning. Surveys which guide them to analyse own attitudes to thinking and learning may expose students to their weaknesses but also result in forms of more active sustainability interaction.

**Keywords:** education for sustainable development, learning attitudes, virtual learning