The entrancing environment of digital culture and online games has created new worlds of narrative and communication, of team work, competition and problem solving, of socialization and the negotiation and representation of identity. For very many teenagers and children currently in school and at home, digital culture and online games provide sites for the transaction of much of the business of childhood, and for informal learning and play. The virtuality of online settings means that the medium through and with which they play is essentially textual – made of words and images, sound and movement, mediated by their own and other’s situatedness in ‘real world’ contexts and the story world of the game. For educators concerned to understand and respond to ‘new’ and ‘multimodal’ forms of literacy and learning, and to equip students to be critical and capable users of both print and multimodal forms of literacy, games and young people’s engagement with them provide rich insights for curriculum and pedagogy that responds to the digital world. Drawing on a three year study of literacy and computer games this keynote outlines central issues in bringing games into the classroom, exploring what games have to offer of value to pedagogy and curriculum, conceptualising games as action-based, multimodal forms of text and literacy and harnessing connections between students’ in and out of school experience.
Game based learning can be thought as building a situated learning scenario and engagement design. We can design a game in which robot is the delegate/leading role of the user. In addition, if the scene of the game is the classroom augmenting with mixed reality, we then build a learning playground in the classroom. The problem here is how to put learning activities and learning materials into the playground. The game design should let users use or apply the learned knowledge to move forward the goal of the game.

In this talk, we will discuss the techniques needed and available for building the playground. Related works that can be interpreted as this scene. We then will describe our works and experiences of learning games using robot and mixed reality.
How do designers of systems create video games and digital toys for learning -- conscientiously? How can we design systems that meet the constraints suggested by important social values, yet also meet traditional software and game design criteria as well? Games are a cultural medium, carrying embedded beliefs within their representation systems and structures, whether the designers intended them or not. Flanagan's novel research at the Tiltfactor laboratory offers a new theory to understand these beliefs in the process of creating games, called Critical Play. By focusing upfront on human values in the design process -- such as cooperation, collaboration, peace, freedom, empathy, honor -- she will showcase works from her laboratory, arguing that values are all around us and it is up to the designer to harness them for good. Technological systems that incorporate values as one of many competing game design requirements. This design theory engages meaningful play with a novel approach to games and learning.