

## Fablabs and Makerspaces: Catalysts for Student Innovation in Higher Education Context

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### Abstract

The world is changing fast enough that universities are expected to equip students with creativity, intelligence and the tenacity to innovate. Fablabs and makerspaces are becoming a necessity for this, providing students with hands-on tools in a space encouraging them to work together. These kind of spaces puts students in an environment to be able to flawlessly transcend theory, allowing them to be able write, notepads and think on a higher level.

This paper investigates the impact of Fablabs and makerspaces on the development of innovation skills among university students. Through a survey conducted at a university in Morocco, we assess students' perceived levels of creativity, prototyping abilities, and confidence in applying theoretical knowledge to real-world challenges before and after engaging with Fablab facilities. The results indicate a notable increase in students' innovation levels, highlighting significant improvements in their problem-solving approach, the development of prototype-based solutions, and their overall ability to think creatively. Furthermore, the study underscores the value of experiential learning environments where students actively contribute to the creation of tangible outputs, bridging the gap between academic learning and practical application.

### Keywords

Fablab, makerspace, Innovation, Students' creativity, Prototyping, Higher Education.

