Unconventional Teaching of Digital Technologies and a Community of Lecturers
How the Learning Lab "Digital Technologies" uses a haptic learning concept for students and grows a community of lecturers

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Developing new, innovative products and services based on digital technologies defines the core of being competitive for companies nowadays (McAfee & Brynjolfsson 2017). In parallel to the increasing speed of technological advancements there is the strong need for teaching digital innovation in core IS courses (Fichman, Dos Santos & Zheng 2014). In addition to innovation for products it also includes innovation for processes and business models enabled by digital technologies. Unfortunately, despite the intensive usage of IT (like smart phones) by students, they often have only limited knowledge about the technology itself – they treat IT as a black box.

To overcome this issue, we developed a new launch event to an IS course for our students (studying a Master of Science in Business Administration). In this one-day workshop format the students work hands-on with Raspberry Pi, sensors and actuators, using Python and databases. By following a haptic, collaborative and self-directed learning concept, the students grasp (with hands and mind) and reflect the not directly visible functionalities and architectures of technological devices. This motivates them for the following lectures in this course. During this format the lecturer acts primarily as a coach.

This teaching approach was so successfully, that the format – called Learning Lab "Digital Technologies" - has grown to 10 different one-day workshops containing robots, VR headset & 360° cameras, CAD & 3D printing, app development, DevOps, Cloud Computing and Artificial Intelligence (for details see: https://www.ll4dt.org/en/streams-en).

This was possible by opening up the concept and the workshops itself to lecturers of other disciplines and also to other universities. These lecturers benefit from the opportunity to integrate a pre-developed and ready-to-use, but also customizable building block into their lectures. The workshops are designed to have very limited investment costs and to be mobile - so a regular class room with movable furniture is sufficient to perform such a workshop. Additionally, the community of lecturer supports the enhancement of the learning lab.

In the TREO Talk we plan to present and discuss our approach as well as to invite others to participate in the learning lab.

References
Fichman, R.G., Dos Santos, B.L., Zheng, Z. (Eric), 2014. Digital Innovation as a Fundamental and Powerful Concept in the Information Systems Curriculum. MIS Quarterly 38, 329-A15.
McAfee, A., Brynjolfsson, E., 2017. Machine, Platform, Crowd: Harnessing Our Digital Future. Norton & Company, New York.