How to foster digital skills in university-industry interaction - The Digital Innovation Camp approach

Dana Mietzner and Eva Ismer
Research Group for Innovation and Regional Development

1 Background consideration

The transition between graduating and starting a career in a working environment is crucial. On the one hand, the professional knowledge gained during studies needs to be complemented with a set of well-developed soft skills and individual competences, on the other hand these skills and knowledge needs to fit the requirements and expectations of future employers. Particularly in SME, a wide range of tasks must be mastered early on and taken on at graduates own responsibility.

The approach addresses precisely this interface, asks about the needs of both sides and strengthens competences in view of the increasing demand for digital and social skills.

2 Methods and process

This study is based on the action research (AR) methodology in order to learn more about DIC in university-industry interaction and is still in process to progress. The presented results cover the first round of the action research cycle. A second cycle will be implemented in 2021.

The approach is intended to support students in their careers and prepare them in the best possible way. The focus is on strengthening the personal competence profiles of young graduates and the requirements for innovation and entrepreneurial action in a fast changing world. This is done by a combination of interactive coaching workshops, intensive team work and virtual reflection phases. In addition to increasing digital competences, soft skills and innovation awareness, the focus is on the students’ self-efficacy and professional capacity to act as well as the integration of digital innovation problems of small and medium-sized companies and start-ups. At the same time, the project strengthens the bridge between theory and practice as well as the networking of scientific and economic actors and creates a central basis for professional development and future innovative ability.

3 Digital innovation camp (DIC) approach

The DICS enhance creativity and support the development of creative solutions for company problems with regard to digitization. The approach allows the integration of students with different backgrounds, experts, and corporate managers. Furthermore, potential customers/users can participate in various ways to give valuable feedback on new concepts. In our study, the DICS concept was implemented for the first round in 2019 and entered on the corporate challenge of solving digital innovation problems of a regional SME. The participating students faced the challenge of developing a customized digital communication tool for the company and a digital marketing campaign to attract new trainees.

In order to foster digital skills in university-industry interaction, the DICS approach was used to support the deepening of digital skills and knowledge transfer. The approach allows the integration of students with different backgrounds, experts, and corporate managers. Furthermore, potential customers/users can participate in various ways to give valuable feedback on new concepts. In our study, the DICS concept was implemented for the first round in 2019 and entered on the corporate challenge of solving digital innovation problems of a regional SME. The participating students faced the challenge of developing a customized digital communication tool for the company and a digital marketing campaign to attract new trainees.

The students focus on the following learning targets:

- Learn and apply creativity
- Problem-solving techniques
- Design digital prototypes
- Conduct initial tests with users
- Solving real innovation problems of companies

During one intensive week (5 days), students, facilitators, and experts developed ideas, observed customers, and reflected on generated concepts, and developed concept prototypes. The DICS was set up on campus but in an online learning environment so as to break out of normal classroom settings. The main concept included a big jam working space with possibilities for group work, visualization, reflection (feed, mood, prototype, presentation equipment, and several tools to support the implementation of creativity methods. The DICS involved 11 students (30 MB, 1 MB lead) from management studies, biosystems engineering, business information technology and industrial engineering.

4 Outcomes

The DICS resulted in three different concepts (a) an internal communication tool (app), (b) marketing campaign for the attraction of trainees (c) knowledge storage tool, developed by three interdisciplinary student teams. The first implementation cycle of the transfer-oriented teaching and learning approach shows that students were able to put themselves in the position of the company in order to identify innovative solutions by implementing innovation management methods in the course of the DICS. In a relatively short period of time, they were able to develop different concept prototypes which are ready for further development and implementation by the company. Furthermore, students and company representatives got in touch with and learned from each other in terms of digital innovation challenges.

The results show that the DICS are a viable avenue to initiate open innovation activities in the form of collaboration among corporations and universities (“Transfer via heads”). In this regard, DICS proved to be a possibility for the corporation to test acceptance of digital advancements and to further investigate its innovation potential.

By doing so, corporations can accomplish a collaborative discovery of opportunities driven by digitalization. Furthermore, universities and their affiliated members get a fresh look into corporate problems and can channel their research results directly into the corporate life. Both partners profit from the collaboration because they can develop new knowledge and can verify their perspectives. In this regard, the DICS can evolve into a win-win situation for both transfer partners. In terms of teaching and learning this approach allows to incorporate new approaches, e.g. the strong focus on interdisciplinary teams, the decomposing of traditional classroom settings or the fast integration of new methods (e.g. digital tools). Furthermore, the DICS acts as a testbed for curriculum development within the University. Departing from the focus on digitalization and innovation management methods, the DICS supports the development of student’s soft skills by working in interdisciplinary teams, various presentation and communication exercises.

Methods:

- Research Group for Innovation and Regional Development

Outcomes:

- The DICS resulted in three different concepts
- The first implementation cycle of the transfer-oriented teaching and learning approach shows that students were able to put themselves in the position of the company
- They identified innovative solutions by implementing innovation management methods
- The DICS acts as a testbed for curriculum development within the University

DICS:

- DICS methods
- DICS results

www.th-wildau.de/fg-innovation