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Integrating Industry into Business School Education

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Introduction

There is pressure on Business Schools to offer value to multiple stakeholders, including students, employers and society. To this end, Business Schools need to undertake and combine three key activities: 1) research, 2) teaching theory, and 3) experiential learning (Hubbard, 2019). Creating links between academia and industry is one method to facilitate this process (Hardaway, Harryvan, Wang, & Goodson, 2016). Though the benefits of academic/industry collaboration are well accepted, operationalising such partnerships can be problematic. This research seeks to establish guidelines and best practice to enhance the likelihood of success. As part of the MSc in Design and Development of Digital Business, a mix of industry and community representatives were invited to engage with students. This presentation will discuss how external stakeholders were integrated into the master's program. Our main discussion will be focused on the insights we gained from using outside stakeholders to help provide information systems students with experiential learning.

Overview of External Engagement

The MSc in Design and Development of Digital Business (MSc DDDB) is a one-year master full-time master's program. Students are taught a mix of technical, design and analysis skills in order to enable them to solve real world business problems. External stakeholders (ES) are integrated into the program to provide students access to new skills and different points of view. Skills workshops undertaken last year include teambuilding, presentation skills, and pitching, Figure 1. ES also interact with students and present key information from modules in a different way.



Figure 1: Industry speaker giving a pitching workshop

As part of the course students work on a design and development project. Incorporating user-centred research and software development, students work in design sprints to create a prototype solution to a real world problem. These problems are suggested by ES partners including companies, state bodies and community groups. Students work with ES mentors during the project to get feedback during sprints, Figure 2. This course uses multiple stakeholder engagement mechanisms to facilitate different intelligence types though multiple entry points of learning (cf. Gardner, 2000).



Figure 2: Students with their External Mentors

Methods

This study used focus groups to evaluate the approaches taken by the course directors to integrate ES into the DDDB program. Focus groups are characterised by rich group interaction that produce insights and data that would be less accessible through other means (Morgan, 1996). They can be used a primary means of collecting data, 'self-contained', or alternatively as a 'supplementary' source of data for quantitative studies (ibid). Focus groups leverage the communication between research participants to yield data that may not be acquired through traditional interviews (Kitzinger, 1995). This is because it enables researchers to study how participants share and compare different views, which is unique to focus groups (Santos, 2019) Rather than ask research participants question individually, it is the interplay between research participants that uncovers "*not only what people think but how they think and why they think that way*" (Kitzinger, 1995 p.299). As such, they offer context and perspective by uncovering the insights and beliefs of participants (Carey and Asbury. 2016). Data for this study was collected using two focus groups, one with students and one with external stakeholders who had interacted with the students on the program.

During their focus group, the students were asked a range of questions related to the course, the modules and teaching methods employed. They were also asked specifically about their final project which involves interaction with external partners. ES were asked to discuss their perception of the course and the students. They were asked to reflect on their interaction with the students, the student's different skill sets and what could be improved. Beyond providing feedback, creating a forum for ES is deemed a key enabler of industry/academic collaboration (Mandviwalla et al., 2015).

Findings

Based on the data collected during the focus groups it was apparent that the interaction between students and industry partners was deemed a positive experience for students and external stakeholder alike. There was broad consensus that the students brought a fresh perspective to the problem solving efforts. As one ES put it "*lots of the student ideas were better than we had internally so it was really successful*". Equally, the students welcomed the exposure to "real-world" problems. Though business case studies are effective teaching aids (Nkohma et al., 2017; McCarthy and McCarthy, 2006), the collaborative project offered cohesion. According to one student "[the project] *allowed us to see how material from the different modules ties together...we took something from every module and applied it in the project*". The collaborative design and development project structure was also identified as a critical success factor for student/industry collaboration. The collaborative industry-focused projects were operationalised using a design SPRINT approach that reflects industry best practice. The research and development project was broken into four three week sprints, each with its own requirements and deliverables. The industry partners were highly impressed with this aspect of the project. All of the external stakeholder agreed that the project structure provided them with clear expectations of the timeline and nature of project deliverables. One of ES focus group members even lamented the lack of a similar structure in his own postgraduate education. Less successful was the timing of the project. Three of external stakeholders stated that they would have liked to engage with the students earlier. This view was also reflected during the student focus groups. Students also expressed a preference for groups to be allocated earlier in Semester 1 and Semester 2 rather than allocating the groups on completion of the summer written examination. The course directors had implemented soft skills workshops including confidence building and team work. However, the team dynamic varied from group to group. However there was consensus that the group project work throughout the year helped students "*work better in groups and understand different people, different work styles and cultures*". The majority of industry partners advocated for additional soft skills modules including presentation and communication skills. The importance of soft skills was also reiterated during the student focus group. Students discussed the importance of professional communication skills such as sending e-mails to business partners and managing their social media profiles whilst some of the ES focus group participants criticised the student's sometimes "informal communications". Although the students acknowledged that they received feedback, they stated a strong preference for proactive rather than reactive communications strategies. Though there were many findings uncovered during the focus groups. Three main learning points emerged:

1. Interacting with industry professionals provides important context for classroom material.
2. Working on real world problems allows students to apply knowledge gained in the classroom.
3. Students need to work on their soft skills when communicating with external partners

Conclusions

Creating a project structure that reflects real-world project work can provide an effective mechanism for collaboration between students and industry partners. Clearly articulated deliverables and timelines

added clarity and purpose whilst also managing the expectations of cohorts with diverging needs. Iterative development allowed both the academic supervisors and industry partners to reflect on progress. This finding would appear to support research by Nielsen and Cappelen (2016) who advocate the use of continuous knowledge sharing versus a "final report" style approach for collaborative research projects. Each deliverable built on the work of the previous deliverable and ensured progression towards the final deliverables. Moreover, it allowed the academic supervisors to intervene early if deliverables were not met or didn't meet the required quality. Frequent intervention, although time consuming, proved effective in ensuring student met deliverables. A delivery schedule also offered partner companies an opportunity to share their experiences with the academic supervisors early and often. The time and availability of staff in the industry partners varied from company to company. However, by clearly articulating the students requirements and expected outcomes, the project directors successfully managed the academic and industry partner needs.

Course directors face many non-academic challenges in facilitating collaboration with ES. Allocation of student groups and matching them with industry partners is one example. Fieldtrip risk assessments were both time consuming and frustrating for the students and project supervisors alike. The requirement for ethical approval removed the element of spontaneity that is often the hallmark of design research. Partner companies found consent forms and project information sheets onerous having already agreed to participate in the research. Launching the collaborative project earlier in the academic year may mitigate this threat. However, this is not clear from the data collected.

Though the benefits of industry/student collaborations is frequently cited, mechanism for successful collaborations are less understood (Ankrah and Omar, 2015). In order to develop effective collaboration, strengths and threats need to be identified, and a common goal which addresses mutual benefits to all stakeholders needs to be developed (Tran, 2016). This research demonstrates mechanisms to strengthen student/industry collaboration and identifies some threats that could be addressed in future research . Evaluating student/industry linkages through the lens of boundary objects (cf. Star and Griesemar, 1989) may also prove to be a fertile ground for future research.

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