An entrepreneurial learning approach to assessment of internships

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An entrepreneurial learning approach to assessment of internships

Abstract

Purpose – The purpose of this study was to investigate how using an entrepreneurial learning approach for assessment of internships could increase the reflected value of combining theory and practice articulated in students’ learning outcomes. Furthermore, the purpose was to investigate whether the applied approach led to enhanced perception of professional identity and new understandings of employability for students in the internship course.

Design/methodology/approach – A qualitative research design was the basis for investigation of the topics in focus. The data consisted of five focus groups, observation notes, and documentation from the exam situations. Two consecutive groups of students (2015 & 2016) participated in the study at a university of applied science in Denmark.

Findings – Results from the study provided evidence that students in internships collectively develop a comprehensive understanding of how to apply theory to practical settings. By working with an entrepreneurial learning approach in the professional practice, students reported an enhanced reflective understanding of learning outcomes and the theory-practice gap, developed an ability for opportunity identification, and established a grounded feeling of professional identity and employability.

Practical implications – The current pilot project serves as a full and context-rich case study that can inform educators about formative and summative assessment practices when designing internships courses. Furthermore, internship supervisors can get valuable insight into learning processes during an internship.

Originality/value – The suggested model for an entrepreneurial learning approach to assessment of internships provides a basis for further research within entrepreneurial learning and the application to design of assessment practices in this context.

Keywords: Assessment, entrepreneurship education, internship, learning, assessment practice.

Paper type: Research paper

Introduction

Professional internships in education are short-term work experiences that allow graduate students to gain new insights into professional work environments and thereby explore how their theoretical interests relate to the following possible career options after graduation (Knouse and Fontenot, 2008). They also, via their action-based approach, enhance the professional identity of students (Pratt et al., 2006, Donnellon et al., 2014).

Several studies of internship programs in business schools have found considerable impacts on employability and also significant benefits in terms of career preparation and income expectations (Knouse and Fontenot, 2008, Gault et al., 2000). However, learning outcomes as a result of internships are still sparsely investigated in the internship literature (Gerken et al., 2012). When internships are an integral part of a professional degree program, they make a significant contribution to educational experience in combination with being an important learning tool in
which students can apply classroom knowledge to a professional work setting (Gallagher, 2004). The learning outcomes from internships can vary a great deal and depend on both the work-place context and assignments set in the given internship as well as the commitment of the students in the internship (Varghese et al., 2012, Parilla and Hesser, 1998).

Assessment of internships is an important part of the learning process and an immediate evaluation is often made in the work place by the internship supervisor. With regard to assessment of the processual learning outcome, this can be more difficult (Piihl and Rasmussen, 2014). This relates to the problem that the focus of the internship assessment is often diffuse and does not necessarily relate to the specific learning outcomes of the individual student (Roberts et al., 2014, Wang et al., 2013). In addition to this, educators evaluating learning outcomes are not an integral part of the internship activities, making the assessment practice by the educational institution superficial and perfunctory (Beard, 2007).

Conceptual framework

This paper is presented as follows: First, the conceptual framework for an entrepreneurial learning approach to assessment of internships is reviewed. The literature examination deals with the various assessment understandings and practices, the inherent theory-practice gap, and the execution of assessment within entrepreneurship education. Second, the study uses a qualitative case-study approach to investigate the following research question: How can an entrepreneurial learning approach to assessment of internships affect the theory-practice gap in combination with influence on students’ perception of professional identity?

Clarifying a clear definition of the entrepreneurial learning approach is difficult. However, Jason Cope developed a dynamic perspective on entrepreneurial learning (Cope and Watts, 2000, Cope, 2005) which serves as the basis for this study.

Entrepreneurial approach to learning

There is a growing body of literature within entrepreneurship education that recognises the importance of applying experience- or action-based approaches when designing education programs (Austin and Hjorth, 2012, Middleton et al., 2014). The theory of experience-based entrepreneurship education provides in this relation a useful account of how educators can set out to develop programmes, learning goals, and outcomes (Middleton et al., 2014, Cope and Watts, 2000). However, little attention has been given when this entrepreneurial learning approach is applied to work outside the classroom, e.g., in the form of internships (Varghese et al., 2012, Gault et al., 2000). A better understanding of how and when entrepreneurial learning takes place is vital for a better comprehension of learning that occur outside a classroom (Wang and Chugh, 2014, Lackéus et al., 2016).

Pittaway and Cope (2007) have shown how the entrepreneurial process can be simulated inside the classroom through action-orientation, situated learning, and emotional exposure (Pittaway and Cope, 2007). These experiential learning environments were found to have a positive effect on learning outcomes, which other scholars also supported with a focus on aspects such as opportunity identification and exploitation (Corbett, 2005, Pittaway and Cope, 2007), learning outside the classroom (Cooper et al., 2004), and case-based internships (Piihl and Rasmussen, 2014, Piihl and Philipsen, 2011). All of which draws on Kolb’s seminal works on experiential learning.
**Internships and assessment strategies**

Reviewing the general assessment strategies, two distinctions in assessment practices have been identified in the literature: formative and summative (Nicol and Macfarlane-Dick, 2006, Wiliam, 2006). Formative assessment is concerned with the qualities of student responses, whereas summative assessment is concerned with summarizing the goal of the achievements by reporting the specific purposes, e.g., of a course (Black and William, 2003). One element of interest in particular within formative assessment is feedback. Feedback is usually information about how successfully something has been or is being done (Nicol and Macfarlane-Dick, 2006). The specter of validated assessment techniques of entrepreneurial learning is continuously being developed (Pittaway et al., 2009, Pittaway and Edwards, 2012).

Integrating the assessment practice of internships in entrepreneurship education has long been neglected in research (Pittaway et al., 2009, Boud and Molloy, 2013, Pittaway and Edwards, 2012). The research on entrepreneurship education to date has tended to focus on assessment practices of inside-classroom courses rather than learning that occurs outside the classroom/university (Ruskovaara and Pihkala, 2013, Neergaard et al., 2016). Therefore, despite these new developments in assessment practices, there is still significantly little information in the literature about assessment of internships (Risner, 2015), and, in particular, entrepreneurial learning approaches to assessment have not yet been developed.

**Theory-practice gap and constructive alignment**

A more general problem regarding assessment of internships is that of the theory-practice gap. In universities of applied science, especially in the areas of nursing and teacher training, the theory-practice gap is widely discussed, and there is a widespread agreement about defining the term as the distance between theoretical knowledge and the practical application of this knowledge in a particular context (Gallagher, 2004, Corlett, 2000). The most fundamental problem is that what occurs in a practical situation rarely matches the theoretical textbook examples given at the university (Roth et al., 2014). The linkage to knowledge acquisition is evident, as the gap consists of an interplay between theory-based knowledge and experience-based knowledge (Ramsgaard and Christensen, 2016, Austin and Hjorth, 2012). Usually this happens within the university setting but when applying the notion to course elements where internships play a major role, the focus shifts. Allen (2011) suggested using “fields of interaction”, namely the university and the workplace. Allen (2011) also referred to the nexus between theory and practice as the “knowing-doing problem”, establishing the theory-practice gap as an issue to be addressed, when educators aim at developing learning processes across different “fields of interaction”. In particular, when considering future work situations and self-perceived employability, assessing internships in other ways seems to be relevant (Yorke, 2011).

Coherence between course design, intended learning outcomes, and assessment can be understood with Biggs’ theory of constructive alignment, grounded on the two principles of constructivism in learning and alignment in the design of teaching and assessment (Biggs, 1996). Constructive alignment has two aspects: 1) The “constructive” aspect refers to the idea that students construct meaning and knowledge based on their already existing knowledge (Biggs, 2003). 2) Alignment stresses the importance of the connection between the teaching/learning and the assessment, which should be supported by a clearly established framework in the form of pre-known learning outcomes. Thus, the assessment relates to how students achieve the intended outcomes and not how well they recite the theory taught by the teachers (Biggs, 2003). Therefore, a key concept to address
in the current study is the value of combining theory and practice and the understanding of a professional identity.

**Research design**

**Research approach**
The current pilot project applied a case study methodology (Yin, 2009, Gerring, 2004) and was conducted in a Danish university of applied science with financial support from the Danish Foundation for Entrepreneurship. The pilot project was undertaken over the total of a six-month period from January to June in the beginning of 2015 and 2016. Within these consecutive years, students of a graduate program in health and nutrition enrolled in an internship course program and completed a full eight-week internship in private food companies, public health food service, and food SMEs combined with a one-week internship preparation and one week of succeeding assessment preparation. The course program was followed by an individual oral and graded examination with educators from the university. After the examinations, all the students participated in focus groups (Halkier, 2010) with a semi-structured interview-guide focusing on the learning outcomes of the internship and the affiliated course program. Five focus groups were conducted according to the methodology of qualitative interviews (Brinkmann and Kvale, 2014) consisting of 7, 8, 6, 5, and 7 participants; interviews were verbatim transcribed and coded using systematic text condensation (Malterud, 2012). Furthermore, observation notes from throughout the course served as the basis for elaborating viewpoints from the interviews with richer context descriptions.

**Case description**

Table 1 provide an overview of the pilot project and course in focus. The course duration was ten weeks, with the first week serving as preparation for the internship with lectures on professional identity, company visits, and coaching of students individually. The learning goals for the course were defined in accordance with approaches on entrepreneurial learning, and were explained by means of three overall goals that all students had to comply to: 1) Ability to identify opportunities in a given practice setting, 2) Ability to create actions from ideas, and 3) Ability to transform ideas into focused and value-adding activities in a practice setting. These learning goals supplemented the official learning goals stated in the academic regulations for the module, which focused on independent learning and performance through internship. In the pilot project, two course days in weeks three and six of the internships were planned. These “breaks” included reflection tasks, coaching, portfolio making, and documentation. The students were also encouraged to participate in experience teams of four students that could meet one to three times during the period. Most students took this approach, and two teams visited each other in the internship setting. Most students received a visit from educators during the internship period. The course concluded with three days of preparation for the oral examination in which students finished portfolios and prepared for the exam. The oral individual examination consisted of 15 minutes of free presentation by the student, 20 minutes discussion between the two examiners, and 5 minutes deliberation before a grade and feedback were given. Table 1 below includes an overview of the learning process before the pilot project was designed and an overview of the activities in the pilot project.

**Table 1:** Internship course outline and data collection points

**Data analysis**
The analysis is structured according to findings in the literature review and the overall purpose and objectives of the project. Five structuring analysis parameters configure the analysis: 1) Value of
combining theory and practice, 2) Professional identity, 3) Reflection level, 4) Feedback and examination, and 5) Understanding of employability. The five parameters are followed by an overall parameter labelled 6) Entrepreneurial actions.

Data were analyzed using systematic text condensation (STC) (Malterud, 2012) in order to apply a descriptive and explorative method to the qualitative data. The researchers began by reading the five transcripts (two from 2015 and three from 2016) to gain an overall impression of the data collected. The transcriptions were read again, and meaningful units were identified and color-coded in the transcript using the analysis parameters. Third, the condensed meaningful units were extracted into an overview document and were finally condensed for quotes and overall categories. The described analysis process is based on the inductive approach to qualitative research (Gioia et al., 2013), which is why empirical data was used to guide the analysis. The theoretical review provided the overall structure of the analysis.

Results

The findings are accounted for below with illustrative quotations structured around the six categories.

Value of combining theory and practice

The first category deals with the theory-practice gap. As an internship is mainly based on practical experiences, students may sometimes struggle with the subsequent theoretical application of the knowledge gained. One student described the issue as follows when reflecting on what courses she relied on during the internship:

"...to make this list over courses that I have used during my internship. I would never have done that in a written assignment. I just wrote and wrote and thought: There is no more room on my list, and I have applied knowledge from so many more courses in the internship. So I got myself some surprises along the way..." (Health science student, focus group A, 2015)

Feedback seems to be an important issue, which the majority of students touched upon. When feedback was given as an obvious part of the daily work tasks, it gave the students a feeling of less distance between the theory and the practice, as the mutual conversations initiated reflections on both the quality of the completion of a task, and also relevant related theoretical tools and concepts:

"I talked to my internship host every day...it is continuous coaching on all sorts of weird problems, I run into. So I received a kind of instant feedback." (Health science student, focus group B, 2015)
“Now we are also done with theory teaching at the school... from now it is just this final examination before we begin our thesis project. So it is clear that now you have to start reflecting on what you can actually do with the theories you have learned.” (Health science student, focus group D, 2016)

Some students described a gap they saw from the practice side. There is an opportunity in the practical setting to learn something from the students and not just to see the theory-practice gap as a lack in the students’ capabilities. One student highlighted this as a way of aligning with the internship in order to see where theory can be applied:

"I also think it is because you get the practical setting linked into it. Then suddenly it becomes relevant to discuss theories because you can identify with practice... when you suddenly sit in the midst of it, then it is a whole lot easier. The theories themselves turn into something more tangible and manageable.” (Health science student, focus group E, 2016)

Professional identity
The second main category deals with professional identity. Here, all students reported how they understood the identities of professionals in the field and how this identity was articulated by other professionals. A grounded feeling of inclusion and acceptance as a fellow worker and not just being seen as a student is one way to look at professional identity, which two students reflected on:

“Yes, it has almost felt like a colleague or at least someone right above me... I felt very much included in everything.” (Health science student, focus group A, 2015)

"To have responsibilities and to get some work tasks. To utilize all we have learned and show that we are capable of it.” (Health science student, focus group D, 2016)

The internship itself and the course puts professional identity at the top of the students’ mind because lectures and discussions focus on the topic. Students highlighted this as being essential when taking part in the internship:

“...more students have become much more aware of their professional identity during this internship period because there is a lot of focus on what we can and what we want to do. But still I think it goes in all sorts of directions.” (Health science student, focus group B, 2015)

Several students also touched upon a “student-market” fit that could be seen as a reflection on whether the professional identity inherent in the educational line can actually be linked to the realities of the professional life experiences through the internship:

“I think it is a mixture of our personalities fitting our profession really well. So we have had some theory added to our identity, our personal identity.” (Health science student, focus group D, 2016)
“Confusion, tension, and learning. It is sort of an arrow through it all in some way, where it all makes sense in the end.” (Health science student, focus group E, 2016)

Reflection level
The third category is the ability to reflect on learning and experience. Being outside a university setting means that learning and reflection need to be triggered in other ways than when an educator is consistently part of the learning process. During the course and the internship, students have worked in detail with reflection:

"You do some kind of status over your internship. And you can feel that you have developed, when you have to tell others about what you have done. I found these 'breaks' very useful.” (Health science student, focus group A, 2015)

“My reflections have mostly come when I talked to other people. I have talked to endless amounts of people during this period, and it gives you a lot of learning having to explain a work task to an outsider.” (Health science student, focus group A, 2015)

Different things can trigger reflection for the students. For some, it is the small experience-teams that meet occasionally, while for others it is the implicit expectation of educators and the regulations about exams:

“I had my experience-team for a visit at my internship. That meant a great deal to me. Also, so I could show my host that I’m not the only one with the profession.” (Health science student, focus group C, 2016)

“I think it has been quite ok to reflect on this, and I am not certain I would have done it if I wasn’t forced to do it for the exam.” (Health science student, focus group C, 2016)

Progression in learning is also a parameter that some students articulate:

“I could never have done these things in the previous internship. I did not have the tools at all that I have had in this one. I also think that is why it has moved me so far ahead in the eight weeks because suddenly I could utilize the tools in a whole other and a more reflective way compared to the last internship period.” (Health science student, focus group E, 2016)
Feedback and examination
The fourth category deals with feedback and the examination situation. Here, students articulate issues on regulations, clear expectations, and documenting learning in the portfolio:

“The exam is where I learned the most... I forgot the documentation pretty much during the internship, but got everything in my portfolio in the end. Also, in the end I got my final problem area defined.” (Health science student, focus group A, 2015)

“The exam is what motivated me at last. Every time. Then you finally open the book.” (Health science student, focus group A, 2015)

The documents and presentation that were part of the formative assessment were a topic in all the five focus groups. In particular, the students themselves decided what to include in the oral examination, which was both a confusing and a motivating issue:

“The exam form. I liked that you independently had to focus on a problem area. You had to set the agenda yourself. Also, you knew you had 15 minutes dialogue about what you presented. It made me take it more seriously when I was in charge.” (Health science student, focus group C, 2016)

Several students dealt with the concept of the focus of the exam and whether the summative element was an examination of the internship or of the learning outcomes from the internship:

“I liked the thought that we had to come and tell you as educators what we had learned. Not come and tell you what you taught us.” (Health science student, focus group C, 2016)

“I was surprised about how good I felt with the exam form. But I think it was because it was linked to the whole internship period, to practice, and that is a new learning for me anyways.” (Health science student, focus group E, 2016)

Grading the exam was an issue many had an opinion about linked to the above issue about the focus of the summative part:

“On the other hand, it seems weird to be graded on your internship. How should you do that? Because it does not say something about what it was like out there.” (Health science student, focus group B, 2015)

“How do you grade whether it is an A, B, or C? I think it would make more sense with a passed/not passed grading.” (Health science student, focus group B, 2015)

Understanding of employability
The final and fifth category besides the overall entrepreneurial action is employability. Here, students deal with their understanding of ways to become employable. One aspect of this category is that students are expected to act as ambassadors for the educational profession:

“We have been instilled with some kind of ambassador function, because many of us often feel we have to go out and showcase what we can. A way of getting companies to open their eyes to who we are as a profession.” (Health science student, focus group E, 2016)
Application of knowledge and tools in the practice setting is articulated to heighten the feeling and understanding of employability:

“I think it has been nice to get out and find out that some of these tools we have learned are actually used out there. The databases and everything we work with at university is something they also use and consult.” (Health science student, focus group A, 2015)

“In the internship, they can assign you some work tasks, but in the end it is up to me to identify other places where I could make a difference.” (Health science student, focus group A, 2015)

Competences were debated in relation to being too narrow or too broad in relation to the knowledge and competences learned during the education:

“I think I have to read up on things... I know how to locate the information, but I would not be able to take a job there instantly.” (Health science student, focus group C, 2016)

The students responded to peer-to-peer learning, indicating that the experience teams and their visits to each other had an impact on their learning:

“There is an enormous amount of mutual coaching in these visits. The trip we had to three places gave us really a lot... to see of each other’s internships, which gave a visual understanding of the context.” (Health science student, focus group D, 2016)
Entrepreneurial actions

Since the pilot project had the main focus of applying an entrepreneurial learning approach to the assessment of internships, the five categories are followed by an overall parameter called entrepreneurial actions. All focus groups included statements and topics that did not fit into the five categories but related to students’ overall thoughts on entrepreneurship education and the design of the project:

“I am certain the entrepreneurial approach has pushed us toward actions and made us strong in these actions especially in relation to managing projects.” (Health science student, focus group D, 2016)

“It makes very good sense in relation to our line of study, especially because we have to go out and create our own jobs.” (Health science student, focus group A, 2015)

Some participants expressed the belief that the bachelor’s degree program they were part of offered a setting for entrepreneurial actions:

“It is the last internship. So identifying opportunities, acting on these, and creating something relevant for production in the companies – being active out there, yes that’s it!” (Health science student, focus group B, 2015)

“It has been recurring throughout the education. We have been told ever since we started. I think it is just our way of being.” (Health science student, focus group B, 2015)

One student mentioned that being entrepreneurial seems to be a natural way of working:

“There are so many tools within this approach. Sometimes you don’t even think about it but just do it thoughtlessly. But it is all part of the entrepreneurial approach... but we often apply the tools to our work and that is cool.” (Health science student, focus group E, 2016)

Taken together, these results suggest that there is an association between applying an entrepreneurial learning approach to internships and the related categories the study identified. In the next section, this will be thoroughly discussed and elaborated in the conceptual framework.

Discussion and contribution

Health education is not necessarily the given arena for entrepreneurship education, but many health care students now need entrepreneurial skills, which is why the field has developed increasingly in recent years at universities of applied science. Many entrepreneurial teaching methods have found their way into the curriculum: company visits, casework, project work, and experiential learning (Kettunen, 2011). Thus, methods from university settings can be directly applied to other educational institutions (Mwasalwiba, 2010, Balan and Metcalfe, 2012). With the current research project, the aim was to develop a model for internship learning and assessment practices. Some of the starting points for discussion of an entrepreneurial learning approach to internships include whether entrepreneurship education and internships are two concepts that can benefit from each other.

Entrepreneurial learning approach to internships

There is no general theoretical foundation for assessments of internships in a wide variation of settings, which is why the main argument in the current study was that working in a professional practice setting incorporates an entrepreneurial way of working and nurtures an entrepreneurial
mindset (Neergaard et al., 2016). The students in the two course periods 2015 and 2016 were asked to focus on identifying opportunities and reflecting on these through the learning goals in order to connect these learning goals to the assessment of entrepreneurial approaches to learning. One could discuss whether this focus is superficial and was being forced into a field where it does not belong. However, the literature review clearly showed a growing need for academic knowledge of what happens in these short-term work experiences where students undertake action-oriented work and qualify their professional competences and identity (Pratt et al., 2006, Donnellon et al., 2014).

**Opportunity identification and developing professional identity**

The findings highlight the importance of continuous reflection on one’s own professional identity (Donnellon et al., 2014). An internship takes place in a professional work setting where students undertake real work assignments, and several students touched upon the “student-market” fit. The debate is whether the professional identity inherent in the educational line of study can actually be linked to the realities of professional life experience through the internship. Are the practice settings ready to accept the proposed professional identity or is it negotiated through meetings and discussion between the two fields of interaction? The findings suggest that the development of a professional identity goes hand in hand with being able to identify meaningful opportunities of value for the organization hosting the internship. Only when efforts are valued and found meaningful does it provide the student with a strong feeling of professional identity.

**Bridging theory-practice gap and understanding employability**

The distance between theoretical knowledge and the practical application of this in a certain context is another area that needs to be addressed when designing an internship course and assessment thereof.

One important finding was that applying theory to practice is not easy for students. Shulman (1998) addresses the problem that professional knowledge is often rooted in academic knowledge and not in experience-based knowledge (Shulman, 1998). An entrepreneurial learning approach to internships in this project found that there may be a way to bridge the theory-practice gap and at the same time highlight that the gap should also be seen from the side of the student and of education in order to create a transfer of knowledge from theoretical settings to practice (Ramsgaard and Christensen, 2016). Linked to this is the understanding of employability. Through their professional work experience with the internship, students receive an “inside track” to find post-college employment, building both personal networking and curriculum vitae skills that can benefit them in later employment (Templeton et al., 2012). At the same time, the findings indicate that an ability to identify opportunities can enhance understanding even more.

**Design of assessment**

The most obvious finding to emerge from the analysis is that educators can design learning outcomes of internship courses in which they only play a minor role. By carefully designing the course and activities and aligning them with the assessment practice, a thorough understanding of value creation can result. Pittaway et al (2009) stress that assessment is an important element of teaching and learning in higher education. For a dynamic perspective on learning within entrepreneurship education, the assessment practice may need to be innovative, and educators can no longer depend on traditional methods of assessment (Pittaway and Edwards, 2012, Perrin, 2002). The current study used a mixture of formative and summative assessment practices, the former to help students identify opportunities through the internship and help them to reflect on these continuously. Figure 1 illustrates the findings of the research and gives an overview of the
categories that need to be addressed in order to develop an entrepreneurial approach to assessment of internships.

Figure 1: Model of an entrepreneurial learning approach to assessment of internships

Conclusion

How can an entrepreneurial learning approach to assessment of internships minimize the theory-practice gap while enhancing students’ professional identity? The current research showed how a carefully designed entrepreneurial approach to assessment of internships can facilitate increased value in combining theory and practice among students. The proposed entrepreneurial learning approach enhanced the perception of professional identity for students, created a high level of reflection, produced a feedback culture, and created new understandings of employability for students in internships. A key finding is that there needs to be an increased emphasis on integration of assessment practice from the beginning of the planning of an internship course. Furthermore, informal and subtle feedback practices should be seen as part of the formative assessment to identify problem areas and dilemmas during the internship and to increase the quality of these. The research finally emphasized that in the design of assessments of internships according to an entrepreneurial learning approach, educators need to include both formative and summative assessment elements. The research has contributed to an understanding of the constructive alignment that shapes the linkage between the individual students’ own learning goals and the overall entrepreneurial learning approach provided by the education. In this relationship, students in the described internships move from observing ways of working toward performing actions independently.

Validity and study limitations

The current study took place in a particular educational setting in a university of applied science in Denmark. Further research should investigate whether the findings are similar in other settings and in other internship courses within higher education. As a result of repeating the data collection over two consecutive years, the data in the current case show a replication of the findings and tendencies. However, the rich case description does not make up for the limited number of students in the course. Another limitation is that the project is a development project, which is why some elements in the educational design had not been tried before. This could lead to activities that, at a later stage, would not be part of the course design. The current case study makes use of the perspectives of both students and educators. However, an investigation of the internship hosts’ companies and organizations was not included. This could have provided a broader analysis of the research questions in focus.

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Table 1: Internship course outline and data collection points

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<td><strong>January</strong></td>
<td>Class meeting</td>
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<td>- Introduction to internship goals</td>
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<td>- Introduction to development project</td>
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<td>Class meeting</td>
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<td>Preparation week before internship</td>
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<td>- Introduction to final internship paper</td>
<td>- Breakfast team-building exercise</td>
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<td></td>
<td>- Individual work with problem areas</td>
<td>- Individual work with problem areas</td>
</tr>
<tr>
<td></td>
<td>- Lecture on evaluation/examination form</td>
<td>- Lecture on evaluation/examination form</td>
</tr>
<tr>
<td></td>
<td>(constructive alignment, entrepreneurial learning goals, and assessment criteria)</td>
<td>(constructive alignment, entrepreneurial learning goals, and assessment criteria)</td>
</tr>
<tr>
<td></td>
<td>- Company visits to business cluster, incubator, and start-ups</td>
<td>- Company visits to business cluster, incubator, and start-ups</td>
</tr>
<tr>
<td></td>
<td>- Prepare presentation of problem area</td>
<td>- Prepare presentation of problem area</td>
</tr>
<tr>
<td></td>
<td>- Ethics dilemma board-game</td>
<td>- Ethics dilemma board-game</td>
</tr>
<tr>
<td></td>
<td>- Presentation of problem area for new students</td>
<td>- Presentation of problem area for new students</td>
</tr>
<tr>
<td></td>
<td>Internship begins (duration 8 weeks)</td>
<td>Internship begins (duration 8 weeks)</td>
</tr>
<tr>
<td><strong>May</strong></td>
<td>Course day at school (week 3 in internship)</td>
<td>Course day at school (week 3 in internship)</td>
</tr>
<tr>
<td></td>
<td>- Professional ethics course</td>
<td>- Professional ethics course</td>
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<tr>
<td></td>
<td>- Ethics dilemma board-game</td>
<td>- Ethics dilemma board-game</td>
</tr>
<tr>
<td></td>
<td>- Individual sparring and feedback</td>
<td>- Individual sparring and feedback</td>
</tr>
<tr>
<td></td>
<td>- Lecture on reflection, logbook, and problem definitions</td>
<td>- Lecture on reflection, logbook, and problem definitions</td>
</tr>
<tr>
<td><strong>Data collection</strong></td>
<td>Internship visits by educators</td>
<td>Internship visits by educators</td>
</tr>
<tr>
<td></td>
<td>Observation and observation notes</td>
<td>Observation and observation notes</td>
</tr>
<tr>
<td><strong>June</strong></td>
<td>Course day at school (week 6 in internship)</td>
<td>Course day at school (week 6 in internship)</td>
</tr>
<tr>
<td></td>
<td>- Individual sparring and feedback</td>
<td>- Individual sparring and feedback</td>
</tr>
<tr>
<td></td>
<td>- Professional ethics course</td>
<td>- Professional ethics course</td>
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<tr>
<td></td>
<td>- Development of disposition for examination</td>
<td>- Development of disposition for examination</td>
</tr>
<tr>
<td><strong>End of internship</strong></td>
<td>Individual students days</td>
<td>Course days at school</td>
</tr>
<tr>
<td></td>
<td>- Completion of internship paper</td>
<td>- Final preparation for examination</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Hand in portfolio and disposition for examination</td>
</tr>
<tr>
<td><strong>Data collection</strong></td>
<td>Written examination</td>
<td>Oral examination</td>
</tr>
<tr>
<td></td>
<td>- Internship paper</td>
<td>- Individual examinations</td>
</tr>
<tr>
<td></td>
<td>- pass/fail</td>
<td>- 40 minutes pr. student</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(20 minutes presentation + 20 minutes dialogue)</td>
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<tr>
<td></td>
<td></td>
<td>- Two internal examiners</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Graded and formative feedback</td>
</tr>
<tr>
<td><strong>Data collection</strong></td>
<td>After examination:</td>
<td>Focus group interviews with students</td>
</tr>
<tr>
<td></td>
<td>Focus group interviews with students</td>
<td></td>
</tr>
</tbody>
</table>
Figure 1: Model of an entrepreneurial learning approach to assessment of internships

957x843mm (72 x 72 DPI)