

Capstone Assignments in Business Education: Fostering Work-Readiness and Self-Efficacy

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Abstract

In today's higher education, students' performance is frequently assessed through small, isolated course modules, which can hinder their ability to integrate and synthesize knowledge and skills. Moreover, educators are called to adopt more innovative approaches that not only develop students' subject-specific knowledge but also foster professional behaviors and broader competencies. Capstone assignments present an opportunity to evaluate overall learning outcomes by requiring students to retain and apply knowledge and skills acquired in previous courses to solve complex, real-world problems, while developing soft skills increasingly valued in the professional world. While existing research highlights positive outcomes associated with capstone assignments, there remains much to explore about these experiences, e.g. how capstone assignments relate to work-readiness and self-efficacy. Using the business program at Kristianstad University, Sweden, and two capstone assignments this study illustrates how capstone assignments in business education can be designed based on different pedagogical foundations, namely experiential learning and Design Thinking. Furthermore, it seeks to explore if and why capstone assignments influence students' perceptions of their work-readiness and self-efficacy. To achieve this, empirical data were gathered from multiple sources, including documents (e.g. study guides, and assignments), classroom observations, a qualitative questionnaire, and focus group interviews with students. The students in general report enhanced perceptions of both work-readiness and self-efficacy and the analysis reveals why capstone assignments lead to these perceptions. Thus, the findings offer practical guidance for educators aiming to develop capstone assignments with the goal of strengthening their students' work-readiness and self-efficacy.

Keywords: Capstone assignments, Work-readiness, Self-efficacy

1. Introduction

In today's higher education, students' performance is often evaluated through small, isolated course modules, making it difficult for students to synthesize their knowledge and skills. As a solution to these fragmented assessments, program-level examinations can be introduced (see for example [1]). In Sweden, Lund University has introduced a program-level examination in the final semester of the business administration program for repetition of the knowledge and skills gained in courses throughout the program [2]. Similarly, Kristianstad University, as part of its pedagogical profile emphasizing a profession-integrated sustainable learning approach, encourages programs to adopt program-level examinations to foster long-term learning and ensure essential knowledge is retained [3].

The idea of summative assessments is popular in many countries and can e.g. be referred to as a comprehensive examination, an exit examination or a capstone examination. Using a *capstone assignment* provides an opportunity to evaluate overall student learning outcomes by requiring students to retain and apply knowledge and skills from previous courses to solve a specific assignment [4]. Capstone assignments can be designed in various ways but are not seldom grounded in ideas of *experiential learning* [5], i.e. to learn through experience and through reflection on doing, and/or in *problem based learning (PBL)* where students are given the opportunity to solve problems in a collaborate setting leading to superior efficacy for longer-term knowledge retention and in the application of knowledge [6]. *Design Thinking*, which is a method that emphasizes innovation and creativity and therefore is useful for exploring and reframing problems [7], especially complex problems [8], is founded on the same principles as experiential learning and can further support students' learning in this context. A capstone assignment typically takes place in the end of the

program and students are expected to have come far in their process of learning. In comparison to a thesis, which is research-oriented, a capstone project is typically more practical and application-based and designed to allow students to apply the skills and knowledge acquired throughout their education to solve real-world problems.

Furthermore, capstone projects are designed to prepare students to take ownership of the diverse strands of their educational journey and transition to the next phase in life. They bridge the gap between academic learning and *professional practice*, helping students transitioning into their careers [9]. Here, today's work environment increasingly seeks *soft skills*, such as communication, teamwork and problem solving, resulting in a need for educators to think more creatively and to develop capstone projects that emphasize these skills [10] to contribute to students' employability and work-readiness [11].

1.2 Problem and purpose

Even if some research shows positive outcomes for students who participate in capstone assignments, there are more to learn about these experiences [9]. More specifically, while capstone projects aim to bridge the gap between academic learning and professional readiness [9], there seems to be limited research on the relationship between capstone assignments and students' perceptions of how ready they are for entering professional life. At the same time, educators are encouraged to think more creatively to foster students' behaviors in parallel to developing hard skills and subject knowledge [11] and to strengthen students' belief in themselves, which also contributes to questions concerning pedagogical designs and approaches that can foster these kinds of feelings. Two interesting concepts to evaluate in connection to a capstone assignment are therefore *work-readiness* and *self-efficacy*. Work-readiness refers to the degree to which graduates possess the skills, attributes and attitudes that prepare them for success in the workplace [12]. Whereas self-efficacy refers to an individual's belief in their ability to execute the behaviors necessary to achieve desired outcomes and reflects their confidence in exercising control over events that influence their lives [13].

Using the business program at Kristianstad University and two capstone assignments as a case study, this study illustrates how capstone assignments in business education can be designed based on different pedagogical foundations, namely experiential learning and Design Thinking. It also seeks to explore if and why capstone assignments influence students' perceptions of their work-readiness and self-efficacy. The context, business education, seems to be especially relevant since although much has been written on capstone courses in general, [14] argue that there is a lack of research focusing on capstone assignments in accounting and what competencies are gained from these experiences. The following research questions guide the study:

- 1) How can capstone assignments in business education be designed based on different pedagogical foundations, namely experiential learning and Design Thinking?
- 2) Why do capstone assignments enhance students' perceived work-readiness and self-efficacy?

2. Material and Methods

To answer this study's research questions, a case study is employed which helps us to contribute practice-based knowledge which is particularly valuable for practitioners such as educators seeking to learn new methods and ways of working [15]. The case is the business program at Kristianstad University, Sweden, and two capstone assignments developed and implemented as program-level examinations for the program's specializations Accounting and Auditing (A&A) and International Marketing (IM). To address Research Question 1, empirical material was collected from various sources, including documents (e.g., course syllabus, study guides, and assignments) and classroom observations as well as observations of faculty team meetings. To answer Research Question 2, we used a qualitative questionnaire designed to capture students' perceptions of the capstone assignment and its impact on perceived work-readiness and self-efficacy. Using open-ended questions such as "*How was it to complete the assignment? Describe your thoughts and feelings, all experiences are valuable*" and "*How did the assignment influence your view of your own abilities?*" we could capture reflections and perceptions. The questionnaire was distributed to 85 students upon completion of the assignments 2025 and answered by 33 students.

To enrich the empirical material and provide deeper insights into what elements in capstone assignments are significant for the students, four focus group interviews with 17 students in total were also conducted (Table 1). Focus groups is a useful method in exploratory research, since they enable in-depth interactions with a small group of participants, facilitating in-depth interaction and dialogue in a semi-structured setting, allowing for emergence of diverse perspectives and rich insight [16]. A semi-structured interview guide was constructed to ensure thematic consistency across all focus groups and to facilitate the development of a coherent and analytically robust material. Due to the explorative nature of the study the guide was designed to support open-ended dialogue, thereby fostering a conversational environment in which participants felt encouraged to articulate their experiences and perspectives freely. The guide included themes as experiences and feelings, knowledges, skills and abilities, self-efficacy and work-readiness. To give room for individual reflection and not being influenced by the group the guide also included small exercises where the students first got to reflect on their own and write down their feelings or perceptions and then present it to the rest of the group in order to facilitate discussion regarding similar or different experiences and perceptions.

Table. 1. Characteristics of participants in focus group interviews

Characteristics	
Age (mean)	25 years
Gender	7 women, 10 men
Study plan alignment	100% (all students)
Experience of exchange studies	3 students
Prior work experience (mean)	3,2
<i>(scale 1-5, 1=no experience, 5=extensive experience)</i>	

The focus groups resulted in 101 pages of transcribed material. The empirical material was analysed using qualitative content analysis, where the two researchers individually read through the transcribed interviews and got familiarised with the data and marked relevant paragraphs. Next, the text was coded jointly by the two researchers, using work-readiness and self-efficacy as two overarching categories of codes. This resulted in 242 codes. The next step was to create themes from the codes. The themes were verified against the observations and the qualitative questionnaire. Last, the labels were reviewed, and the content was further defined.

3. Results

First, we explore how capstone assignments in business education can be designed based on different pedagogical foundations by illustrating two capstone assignments used at the business program at Kristianstad University. Second, we explore the students' perception of the capstone assignments with a focus on why the assignment were believed to enhance students' perceived work-readiness and self-efficacy.

3.1 Capstone Assignments and Pedagogical Designs

Developed from different pedagogical foundations, the capstone assignments for the business program's specializations A&A and IM offer illustrative examples of how capstone assignments can be approached within business education. Both assignments accounts for 3 credits and are included in courses offered prior to the dissertation course.

The capstone assignment for the specialization A&A is grounded in the principles of experiential learning, where students develop knowledge and skills through active engagement in realistic and professionally relevant tasks [5]. By working with a comprehensive case, designed in collaboration with an auditing firm, students are given the opportunity to apply theoretical knowledge in practical scenarios, reflect on their decisions, and experience the complexities of professional roles in accounting and auditing (cf. [5]). The assignment consists of three parts. In the first part, students are provided with information about a case company and take on the role of accounting consultants. Their task is to analyze how the company has valued and reported various items in its financial statements and to propose appropriate adjustments to the annual report. In the second part, students shift roles



and act as the company's auditors. They are responsible for auditing the company's annual report and evaluating the company's governance and management conduct. Their audit tasks include identifying high-risk items, assessing internal control systems, recognizing industry-specific risks, and addressing sustainability-related issues. Finally, students are tasked with preparing a corporate income tax return for the case company, based on their previous analyses and findings. Since accountants often work in teams, the case is solved in groups of three students to reflect a realistic work setting. However, each student is required to perform the presentation individually in front of a representative from the audit firm and faculty members. This approach was designed to enhance subject-specific competencies but also promote critical thinking, collaboration, and professional judgement. Furthermore, role-play activities offer an effective method for engaging accounting students in performance-based communication, navigating ambiguous decision-making scenarios, and participating in authentic assessment practices [17].

The pedagogical ideas of experiential learning [5] have also inspired the capstone assignment for the specialization IM, with Design Thinking (DT) (e.g. [8]) more specifically underpinning the assignment design. DT is a pedagogical approach that fosters creativity and supports the solving of complex, wicked problems. It involves both divergent and convergent thinking [18] and typically follows four phases: discovery, definition, development, and delivery, promoting exploration, collaboration, and reflective practice [19]. The assignment consists of two parts. In Part A, students review and summarize the knowledge, skills, and judgment developed during their studies, with a focus on identifying their core competencies in marketing. They are supported by an interactive workshop designed to facilitate collaborative reflection, followed by a field visit where two HR managers share their views on essential professional competencies. In Part B, students are presented with a real-life case and are expected to apply their identified competencies to address a complex, open-ended challenge, a so-called wicked problem (cf. [8]). The case is introduced through a short, written case description, followed by a DT-inspired workshop focusing on the defining a relevant problem with exercises supporting both divergent and convergent thinking (cf. [19]). For example, students brainstormed problems (discovered), discussed their problems (defined), grouped their ideas into themes (developed) and later were asked to share their top three problems (delivered). Students work in groups during the workshop but continue individually to further refine the problem and develop solutions. A Q&A with a company representative offers further insight, and later, students pitch their defined problems and proposed solutions to representatives from the case company and faculty members. Thus, while creativity and problem-solving lie at the heart of DT pedagogic, the approach also nurtured additional soft skills such as presentation skills, critical thinking and adaptability.

3.2 Capstone Assignments Fostering Work-Readiness and Self-Efficacy

The participants in the focus group interviews expressed that participating in the capstone assignments had developed diverse competences and skills. The ability to solve problems, critical thinking, presentation skills, and the ability to collaborate were frequently highlighted, but students also stressed that the assignments helped them to become more solution oriented and creative, and better at time management. Furthermore, the qualitative questionnaire and the focus group interviews support that capstone assignments, with a few exceptions, positively influence students perceived self-efficacy and work-readiness. The empirical material also allows us to explore *why* the capstone assignments influence these perceptions. Five themes of self-efficacy were identified (see table 2). The assignments facilitated *self-awareness and reflection* as they allowed students to reflect on their strengths and weaknesses and helped them to see their own knowledge, and also their ability to learn, contributing to increased self-efficacy. The assignments became an affirmation and reminder of what the students knew and, in that way, became the students' *evidence of learning*. It also functioned as *motivation and drive*, as students described how it increased their self-confidence and made them realize that they knew more than they thought. Students also described that the fact that their teachers believed they could solve the capstone assignment was enough to increase their self-efficacy. Furthermore, the assignments meant that they could compare their knowledge and ambition to others and thus offered an important opportunity for *social benchmarking*, which could be both a positive and negative experience. It was also an opportunity for *development*, as the students also expressed how

the assignment allowed them to connect what they had learnt so far in a new way and helped them to identify new knowledge.

Table. 2. Self-efficacy: themes, codes and examples of quotes

Themes	Codes	Example of quotes (focus group)
Self-awareness and reflection	Self-knowledge (strengths/weaknesses)	"Very educational to go through all that knowledge again and know what you're good at and what you're less good at." (1)
	Understanding of one's own knowledge development	"Got to see how one has developed over the years... how one has built upon one's knowledge." (3)
	Doubt/uncertainty	"I thought it was a bit uncomfortable not knowing if you're doing it right or wrong, but at the same time very rewarding. Because somewhere along the way you have learned, so most of it should be right." (2)
	Eye-opener	"That was what opened my eyes to the fact that I could do it." (4)
	I can learn	"You feel comfortable knowing that you can learn stuff." (2)
Evidence of learning	Knowing that one can	"You knew that you could do it, and that strengthens you." (4)
	Things flowed (knew what to do)	"It just flowed." (1)
	Reminder of what one knows	"More or less forced to reflect backwards. Because I feel that when you're in it, you either have the current course in your head or you're thinking ahead about what's coming next, not about what you've actually done and what to take with you from that." (3)
	Affirmation	"It becomes a confirmation that you do know things." (1)
Motivation and drive	Knew more than expected	"You realized you had more and better abilities than you might have thought." (3)
	Boosting oneself (self-confidence)	"You kind of boost yourself a bit." (1)
	Someone believes in me/ expectations	"The teachers kind of invested in us, like they believed in us and that this was something we could manage. So it didn't feel impossible just because it was challenging." (4)
Social Benchmarking	Knowledge compared to others	"My competence maybe turned out to be a bit higher than theirs." (2)
	Drive/ambition compared to others	"...but people are driven by different things." (1)
Development	Tying it all together	"We really got to tie it all together with both accounting and auditing, which is probably what we'll all go on to work with." (2)
	Identifying/recognizing new skills	"With this presentation I'd say I've become much more comfortable with presenting, and maybe my curve toward becoming a better presenter has started now, because I wasn't comfortable with it before and used to find it tough." (2)

It was also possible to identify five themes connected to perceived work-readiness (see table 3). The students expressed that the *professional relevance and realism* was important as it gave them opportunities to test and try out the roles as economists and that the fact that it was "for real" contributed to that they felt more ready for their future jobs. That assignments gave room for *independence* was also important, as was the feeling of being *challenged*. The students experienced the assignments as high-stake situations which allowed them to practice handling pressured situations. Furthermore, the capstone assignments helped the students to identify knowledge gaps and served as a wake-up call for some and made them realize that they want to continue to learn also after graduation, stressing the perspective of *life-long learning*. Finally, the capstone assignments had a strong *future orientation* and made the students understand their future profession and woke their desire to start working. Many express that it made them feel more confident in entering the job market and that they developed or got to practice competences important for the future.

Table. 3. Work-readiness: themes, codes, and example of quotes



Themes	Codes	Example of quotes (focus group)
Professional relevance and realism	For real	"It made me more motivated to perform better, compared to if it had just been a company with some fake name that was anonymized for us. This way, we also got to see the faces of the people working at the company." (3)
	Testing out the role	"...when you step into the role as an auditor and present to a company, it's incredibly rewarding - something I wasn't comfortable with before, but I came out of it proud, feeling like I really stepped into that role." (2)
	Trial	"But the main thing for me was just to get the opportunity to test - that was what mattered most to me." (3)
Independence	Taking responsibility	"What really sets this apart from what we've done before? Well, it felt like we had to take a bit more responsibility." (4)
	Standing on one's own feet	"Then we had to solve it completely on our own." (3)
Challenged	High stake situations	"Because you wanted to show that you can do it well - do it better. Especially compared to if it had just been fictional." (3)
	Handling pressured situation	"It's super tough and it's a challenge - you get really stressed. But it was valuable, because it forced you to really know everything. The pressure helped." (1)
Life-long learning	Knowledge gaps	"Maybe this is something I need to practice before entering working life." (1)
	Wake-up call	"I can honestly say that I went into the presentation feeling quite confident, thinking I just needed a paper. But then I realized I rushed through it time-wise, and it became a bit of a wake-up call - like, maybe I need to practice more and feel more comfortable in that situation." (1)
	Wanting to learn more later	"I feel like I have a foundation, but that I'm ready to learn new things when I enter working life and build on what I learned during practice. To deepen my knowledge." (1)
Future orientation	Motivation/desire to work	"I feel more motivated to actually go out and practice." (3)
	Feeling confident	"And maybe now, after this examination, I feel a bit more comfortable about work life - life after school. Like, I feel that I could actually take on a real task." (4)
	Important for the future	"We got to use different tools that are needed in working life." (1)
	Understanding the future profession	"You really need a broad knowledge to be able to do our work." (1)

4. Conclusion and Discussion

The aim of this study has been to illustrate how capstone assignments in business education can be designed as well as to explore if and why capstone assignments influence students' perceptions of their work-readiness and self-efficacy. The study provides two different examples of capstone assignments used at a business program in Sweden, illustrating different pedagogical designs and assignments for different specializations, namely accounting and auditing and international marketing. The study supports that capstone assignments, with a few exceptions, positively influence students' perceived self-efficacy and work-readiness. The study reveals why there seems to be a positive relationship between capstone assignments and these perceptions and can thus offer guidance for educators aiming to develop capstone assignments with the goal to strengthen their students' work-readiness and self-efficacy. When it comes to self-efficacy, the students highlight the importance of that the capstone assignments facilitated *self-awareness and reflection*, became an *evidence of learning*, functioned as a source for *motivation and drive*, allowed *social benchmarking*, and offered an opportunity for *development*. In relation to work-readiness, the students highlight the importance of an assignment and pedagogical design that is *professionally relevant and realistic*, gives room for *independence*, *challenges* them, stresses the perspective of *life-long learning* and has a strong *future orientation* in order to feel ready for their future profession. The study does not only offer practical



advice for educators, but it also contributes to the research stream about capstone assignments. More specifically it increases our understanding of why capstone assignments bridge the gap between academic learning and professional readiness (cf. [9]), in an academic field, i.e. business administration and accounting, where previous research [14] has identified the need for more research.

Soft skills are integrated and play a central role in the capstone assignments as skills such as collaboration, communication, problem solving and self-direction are needed to solve the assignments. In terms of learning, soft skills are frequently highlighted by students as skills that were both put to the test and developed. Even if students recognized that their knowledge in accounting or marketing was important, students put even more emphasis on how they used skills and judgment developed during their studies, such as their ability to collaborate or to think critically. Thus, the capstone assignments can be a creative way to foster soft skills in parallel to developing hard skills and subject knowledge [11].

The students in our study belonged to two different specializations in the business program and thus experienced two different capstone assignments, also designed using two slightly different pedagogical frameworks. Yet, the experience of doing a capstone assignment largely seems to overshadow the difference in designs as students in our study share many beliefs. It should also be noted that the two pedagogical approaches used to design the capstone assignments, experiential learning and DT are strongly related, which also can have contributed to that the students no matter specializations seem to have rather similar experiences of doing a capstone assignment. However, the students at IM, with an assignment grounded in DT, to a higher extent expressed that they gained *motivation and drive* which positively influenced their self-efficacy. This can be understood in the light that DT is a human-centered approach [8], making it natural to emphasize these aspects in the process. Also, *professional relevance and realism* are important to build work-readiness for both specializations, but the aspect of getting the opportunity to trying out the role is unique for A&A, with an assignment grounded in experiential learning that allowed the students to try and play the role of accountants (cf. [17]).

There are also other interesting reflections to be made regarding the differences in the design of the two capstone assignments. Even if workshops with group discussions were important in the design of the IM assignment, the assignment mostly consisted of individual work. This provided more space for perceived self-efficacy to develop through self-awareness and reflection. In contrast, the A&A assignment was primarily carried out in groups, thus influencing students' self-efficacy also through social benchmarking. For several students, social benchmarking positively influenced their perceived self-efficacy, while for others, comparing oneself to peers resulted in an opposite feeling.

There also seems to be a difference in the perceived level of difficulty between the assignments, where A&A students generally perceived their assignment as more difficult than IM students did. Some RR students experienced the assignment to be *too difficult*, which influenced their self-efficacy negatively. However, several students also expressed that the challenging assignment offered the opportunity for development, which positively influenced their self-efficacy. IM students on the other hand did not emphasize that their assignment gave them opportunities for development, and consequently it was not an aspect that influenced their self-efficacy. Thus, one should carefully consider the level of difficulty when designing capstone assignments.

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