

Teaching Business Models Through Student Consulting Projects

Philippe Massiera¹

Abstract

Purpose: This article aims to share practical insights regarding the changes implemented between 2016 and 2018 in a consulting programme implemented in a French business school that involves 200 to 250 bachelor's students on a yearly basis. For five weeks, students work as consultants assisting up to 40 local entrepreneurs with the objective to strengthen the coherence and value of their business model.

Design/Methodology/Approach: Single case study

Findings: Experiential approaches to teaching business models remain very demanding in terms of organization and follow-up. Based on our experience, we provide reflections about the pedagogical curriculum, useful tips for the enrolment of entrepreneurs and details about the evaluation process. We also highlight how the introduction of a business model development tool dramatically improved the overall consistency of the consulting project from both the pedagogical and managerial perspectives.

Originality/Value: Existing literature on consulting programmes predominantly focuses on consulting projects involving small businesses. When implemented with entrepreneurs, such out-of-the-classroom teaching approach is a fruitful but demanding avenue. By sharing our experiences, we expect to document helpful recommendations which could contribute to widen its adoption.

Keywords: Entrepreneurship education, Business model, Student consulting projects, Business Model development tool.

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¹ Université du Québec à Montréal

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Introduction

In the field of entrepreneurship education, the increasing use of experiential assignments highlights the development of a “*learning by doing*” pedagogy (Kuratko et al., 2015). In contrast to pedagogies dedicated to “*learning to become an entrepreneur*” (e.g., business plan design exercises, simulations or creative projects), which are acknowledged for fostering the acquisition of business-model skills (Gedeon, 2014; Morris, 2014), business model consulting projects are dedicated to raising entrepreneurial attitudes among students (Bechard and Gregoire, 2005; Kenworthy-U’Ren et al., 2006). This out-of-the-classroom teaching approach is a fruitful but demanding avenue that requires better documentation. The existing literature predominantly focuses on consulting projects involving small businesses (Pittaway et al., 2007; Winke et al., 2013), which may explain why this innovative pedagogy is still not more widely implemented with entrepreneurs (Morris, 2014). To contribute to the literature, this article aims to share practical insights regarding the changes implemented between 2016 and 2018 in a consulting programme implemented in a French business school that involves 200 to 250 bachelor’s students and up to 40 local entrepreneurs yearly. The paper is organized as follows. We start by presenting the objectives and specificities of the reproductive pedagogical approach, followed by the selection process and the organization of the consulting project. Finally, we share some reflections regarding its application and describe the main pitfalls, learning outcomes and avenues for improvement.

Pedagogical Approach

Context and objectives

Regularly ranked among the best French business schools in entrepreneurship, EDC Paris has nurtured a unique entrepreneurial DNA as evidence by 15 to 20% of the students creating their own companies (or taking over a family business) before or immediately after completing their master’s degree. If the school primarily targets potential entrepreneurs and future managers (Kirby, 2004), the pedagogical curriculum is distinguished by the importance given to experiential learning and the emphasis given to the entrepreneurial phenomena. The highlight of this entrepreneurial culture is the implementation of a business model

consulting project (Bechard and Gregoire, 2005; Kenworthy-U’Ren et al., 2006). Once a year, for five weeks at the end of their second year of the undergraduate programme (BSc/BA), 200 to 250 students work as consultants assisting local entrepreneurs with the objective to strengthen the coherence and value of their business model (Fletcher, 2018). Implemented *pro bono*, these consulting projects can be defined as a “*service-learning*” oriented pedagogy (Samwel Mwasalwiba, 2010) as they aim to respond “*to community-identified needs and opportunities*” (Kenworthy-U’Ren et al., 2006, p. 121). From a pedagogical perspective, this experiential assignment is primarily dedicated to raising an entrepreneurial attitude among the students and allowing the students to use their knowledge and skills related to the Business Model concept in real cases.

Scope of the consulting project

During the consulting project, students are placed in a situation in which they compare their ideas, thoughts and analyses with those of local entrepreneurs without the need to be involved in the entrepreneurial process. The knowledge and skills acquired by the undergraduate students can be valuable as they provide a more structured and academic approach to business problems than entrepreneurs (Heriot et al., 2008). The consulting projects specifically target entrepreneurs during the “*integration phase*” of their creation process (Frankenberger et al., 2013). This period effectively offers a perfect match between the entrepreneurs’ expectations and the pedagogical objective, which is to allow students to use the knowledge, methods and tools they learned in their first two years of school. On the one hand, entrepreneurs must develop a business model that specifies all relevant aspects of their project in a holistic way to communicate and analyse the coherence of the strategic choices and economic sustainability of their projects. However, many entrepreneurs tend to underestimate the problems associated with the need for completeness and coherence, which frequently entails the overall legitimacy of the entrepreneurial project (Kuratko et al., 2017; Malmström, 2017; Shafer et al., 2005). On the other hand, students assist local entrepreneurs by identifying and addressing possible missing information or flawed assumptions that could undermine the overall credibility of the entrepreneurial project. However, the consulting project is not

Entrepreneurial process	IDEATION PHASE		INTEGRATION PHASE		
	Consulting project audience	Out of scope		Scope of consulting project	
Main objectives	Generating and selecting creative ideas regarding how to innovate the current business model		Developing a complete and consistent business model that holistically specifies all relevant aspects		
Entrepreneurs' main interests	Facilitation of the emergence of the idea	Selection of a business opportunity	Validation of the overall coherence of the business model	Validation of the overall viability of the project	Formalization of the industrial, marketing or financing strategy Validation of the tax strategy

Table 1: Scope of the consulting project

tailored to addressing the needs of entrepreneurs during the ideation phase or the later stage of the integration phase (described in the table below). The “learning by practice” approach adopted by the consulting project has limited value and interest during the ideation phase when entrepreneurs are still in a reflexive state attempting to identify a business opportunity by sorting through the multitude of ideas and projects they have contemplated. Consequently, students face original problems that are not defined a priori, leading to an endless display of options. At the opposite end of the continuum, the project does not target entrepreneurs who are already very advanced in the creation process because their expectations can often lead to a level of expertise that exceeds the knowledge and skills of undergraduate students at the end of their two-year programme.

Preliminary knowledge and business model development tool

Prior to the consulting project, students must complete a mandatory business model course. After being sensitized to the context of venture creation, the students are familiarized with the different stages of the entrepreneurial process and the individual specificities of an entrepreneur (e.g., profile, entrepreneurial orientation, entrepreneurial expertise and effectuation) before learning about the basic strategic and financial skills necessary to be able to properly design and assess a business model (Morris and Liguori, 2016). The curriculum was revamped in 2016 to improve the coordination between the strategic and financial contents. Using

the business model “integrated framework” (Morrish et al., 2005), the learning goals and curriculum content were framed within two separate overlapping modules taught by two different teachers (see Table 2 below).

The business model curriculum is designed to prepare students to assume the role of an expert as they will have to manage the entrepreneur through skills and technique transference (Sadler 1998). However, considering the relative youthfulness and lack of consulting expertise of the students, a possible gap may arise between the expectations of the client and the work carried out by the students. Considering that the elaboration and validation of a business model represent a complex cognitive and rational process by nature, an online business model development software was introduced in 2016 to increase the ability of the students to reproduce and apply the knowledge and methods acquired during the Business Model course. After performing a comparative study, the choice was made to use the CCI business builder platform (see Annexe B). As illustrated in the figure below, this ready-to-use online tool provides many useful options related to the integration phase of the entrepreneurial process within a unique logical flow as follows:

- Several individual self-assessment grids related to the evaluation of an entrepreneur’s attitude and intention,
- Two business model visualization tools for the analysis of the Lean Canva (Maurya, 2012) and the Business Model Canva (Osterwalder and Pigneur,

Modules	Learning goals	Curriculum content
Strategic module	Ability to assess the time, scope and size ambitions of the project	Strategy of the firm Value, vision and mission of the firm Identity and culture of the firm
	Ability to assess the demand and identify a specific clientele	Customer information and interface Customer segmentation and potential
	Ability to assess the competitive advantage	Market structure and competitor analysis Differentiation strategy Value proposition and customer benefits
	Ability to identify the source of the competitive advantage	Tangible resources/assets Capabilities/competencies Brands portfolio and firm reputation Customer relationship
Financial module	Ability to define how value is created	Process/activity organization Information flows Product/service flows Value network (suppliers)
	Ability to demonstrate how the business makes money	Sales forecasting Revenue/pricing strategy Design of the revenue stream Break-even analysis and cost forecasting
		Income statement
		Start-up capitalization and cash flow projection Initial balance sheet
		Investment plan

Table 2: Business model course: Modules, learning goals and curriculum content

2010) (see Szopinski et al., 2019 and Täuscher et al., 2017 for further information regarding the business model development and visualization tools), and

- A business plan management tool that includes several writing pads and computation modules that ease the presentation of the strategic and financial core components of a business plan.

Organization of the Consulting Process

The student consulting project minimally includes the following three key stages: the initiation phase involving the enrolment of entrepreneurs, the execution phase of the consulting mission and, finally, the evaluation phase (Heriot et al., 2008, Lycko and Galanakis, 2019).

Enrolment of entrepreneurs

Similar to all service-learning-oriented pedagogies, the quality of students' consulting projects depends on the motivation and willingness of all parties to collaborate, and a major challenge from the quantitative and qualitative perspectives is the enrolment of entrepreneurs, i.e., "*the clients*" (Heriot et al., 2008). To ensure enough time for the identification and recruitment of up to 40 projects, the selection starts five months in advance. This prospecting phase is most often carried out through direct and indirect promotional actions (e.g., through participation in entrepreneur fairs in Paris) and by establishing close relationships with local community partners likely to support entrepreneurs (e.g., accelerators and incubators). To ensure that their expectations match the scope of the business model consulting projects, a self-evaluation grid

IDEATION PHASE

TESTEZ-VOUS

TESTEZ VOTRE DÉTERMINATION
TESTEZ VOS TRAITS DE CARACTÈRE
TESTEZ VOS APTITUDES
ÉVALUEZ VOS COMPÉTENCES

Self-assessment tools

Quelles sont vos principales aptitudes ?
Quelles sont vos principaux traits de caractères ?

IDÉE

VOTRE IDÉE AURA-T-ELLE UN MARCHÉ ?
 TESTEZ VOTRE IDÉE AVEC LE LEAN CANVAS
 VOTRE IDÉE VOUS CORRESPOND-T-ELLE ?
 LIBÉREZ VOTRE IDÉE ET RACONTEZ-LA SIMPLEMENT

Description of the ideation phase with a Lean Canvas

INTEGRATION PHASE

Tutoring session #1

BUSINESS PLAN

ÉQUIPE - IDÉE
 ÉQUIPE
 IDÉE EN SYNTHÈSE
 BUSINESS MODEL

Description of the team and the organisation

CONTEXTE
 VISION - STRATÉGIE - PLAN DE DÉVELOPPEMENT
 BUSINESS MODEL
 PITCH DU BUSINESS MODEL

Presentation and description of Business Model Canvas

OFFRE - MARCHÉ

OFFRE
 CLIENTS
 CONCURRENTS
 POSITIONNEMENT
 CHIFFRE D'AFFAIRES - ACHATS - STOCKS

Description of the external environment : market structure, competitors,

STRATÉGIES OPÉRATIONNELLES ET PROCESS

PRODUCTION - FOURNISSEURS - PARTENAIRES
 DISTRIBUTION
 ACQUISITION CLIENTS
 COMMUNICATION
 FIDÉLISATION
 CALENDRIER DU PROJET

Description of customers (segments, channels, relations) and offerings

ORGANISATION DE L'ENTREPRISE

RESSOURCES HUMAINES
 JURIDIQUE - STRUCTURE DU CAPITAL
 FISCAL
 FONCTIONNEMENT DE L'ENTREPRISE / FRAIS GÉNÉRAUX
 ACTIVITÉS RÉGLEMENTÉES

Description of the organisation: key activities, key resources, key actors

Tutoring session #2

ÉLÉMENTS FINANCIERS

RENTABILITÉ
 BESOIN EN FONDS DE ROULEMENT
 RÉCAPITULATIF DES INVESTISSEMENTS
 SOURCES DU FINANCEMENT
 PLAN DE FINANCEMENT
 COMPTE DE RÉSULTAT
 SOLDES INTERMÉDIAIRES DE GESTION
 PLAN DE TRÉSORERIE
 BILAN

Description of cost structure, revenue projections & capital structure

Automated financial projections & statements

Exemple : la consommation de produits A a été mesurée de février à la manière suivante :

Mois	Jan	Fév	Mars	Avr	Mai	Juin	Juil	Août	Sep	Oct	Nov	Déc
Coefficient de consommation	1	1	1	1	1	1	1	1	1	1	1	1
Coefficient de consommation	0,8	0,8	0,8	0,7	0,7	0,7	0,7	0,7	0,8	0,8	0,8	0,8

Figure 1: Screenshot of the CCI Business Builder development tool

was specifically developed for the staff in charge of contacting potential clients (see appendix B). First, entrepreneurs are invited to complete an application form in which they describe their projects and expectations regarding the coherence and viability of the project. Second, these applications are reviewed, and the applicants are personally contacted by the programme

coordinator. The main issue is to ensure that the expectations of both parties are compatible, particularly regarding the difficult balance between the expectations of the entrepreneurs in terms of advice and deliverables and the educational expectations. If an agreement is found, the entrepreneurs receive a contract proposal which explains in detail the objectives,

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timeframes and nature of the deliverables, obligations of the school in terms of confidentiality, etc. In return, the entrepreneur commits to sharing necessary information, including financial information, and dedicating enough time to the students. Two weeks before the start of the mission, all selected entrepreneurs are invited to attend a two-hour presentation delivered by the programme coordinator during which the objectives and schedule of the mission are presented and discussed (see Cook et al., 2005 for further guidance regarding this aspect).

Implementation of the consulting project

As described in Table 3, the consulting project process can be defined as a “micro-one” as it is performed within a relatively narrow timeframe (Heriot et al., 2008, Lycko and Galanakis, 2019).

The first week is dedicated to establishing a trusting relationship with the entrepreneur and developing a good understanding of the project. The week starts with a formal meeting between the entrepreneurs and the assigned team. The composition of the teams of 4 to 6 individuals is generally left to the free discretion of the students but cannot be changed once established. Within each team, one student is appointed as a coordinator to serve as the interface between the entrepreneur and the team and between the team and the school. Once this contact has been made, the teams are free to determine the frequency of meetings and their working method at their convenience. To foster their project management abilities, at the end of the week, each team must submit a report presenting the main issues to be addressed and the different milestones and deliverables scheduled for the remaining five weeks (☞1).

During weeks 2 and 4, two follow-up one-hour tutoring sessions are organized under the supervision of two faculty instructors paired in complementarity to follow the progress of the project and assist the students with their strategic and financial assessment. As detailed by Cook et al. (2005), the instructor acts as a facilitator who helps the teams structure their analysis and eventually assists them in recalling the conceptual and methodological fundamentals discussed in class. The first session is dedicated to the identification of flawed assumptions regarding the strategic and marketing core dimensions of the business model and the time, scope and size ambitions of the project. The second session is dedicated to the identification of flawed assumptions related to the financial projections and assessment of the financial viability of the project. At the beginning of each tutoring session, the teams must electronically submit a working document summarizing (i) the progress of the work carried out to date, (ii) a work schedule describing the main steps to be taken, and (iii) a list of the questions to be addressed during the tutoring sessions (☞2, ☞3). During the entire consulting project, the teams are invited to use the business model development tool. As previously described, the platform provides many tools that are particularly relevant for project analysis, especially during the incubation phase. Through the platform, the teams and clients share a common repository to save information online. Like a checklist, the step-by-step analytical framework follows a logical sequence that eases the generation, dissemination and analysis of the information and co-production process of the final deliverables. For each core section of the business model/business plan analysis, the teams and clients can also access various videos and online tutorials.

Week 1 Initiation and reading		Week 2 Tutoring session 1		Week 3 Project analysis		Week 4 Tutoring session 2		Week 5 Conclusion	
Initial meeting with entrepreneurs	☞ 1	☞ 2	Strategic assessment: Competition Market acceptance Sales scenarios	Key success factors Operating cost Key partnership and resources	☞ 3	Financial assessment: Breakeven analysis Funding requirements	☞ 4	Oral presentation	
Gathering and analysing information Defining the problem									

Table 3: Timeline of the students’ consulting projects

Project completion

At the end of the five-week mission, each team must submit a final written report of approximately sixty pages in length (A4) and present a final one-hour oral presentation. The students present their conclusions and recommendations for 20 minutes. Subsequently, 20 minutes are allocated for a Q&A session, 10 minutes are allocated for a jury deliberation (held behind closed doors) and 10 minutes are allocated for a final discussion during which the jury deliberations are presented. The jury comprises academic and non-academic representatives as follows: two teachers, including the instructor in charge of monitoring the strategic aspects, and at least one representative from the private sector. These representatives must have an entrepreneurial background and are most often enrolled among the alumni community. This bond of trust facilitates both the recruitment and confidentiality of the discussions. However, to avoid any conflicts of interest, the representatives must be recruited from a different industrial sector. Our experience demonstrates that their presence contributes to emphasizing managerial expectations in terms of content and presentation.

Evaluation

The final grading of the assignment, which represents the equivalent of approximately one hundred hours of personal work, is computed by summing four scores weighted as follows: 20% for the strategic and financial tutoring sessions (10% each), 10% for the final written report, 50% for the final oral presentation and 20% for the client's final evaluation. Formal rating grids were developed to standardize the evaluation process to the greatest extent possible.

After each tutoring session, the faculty instructor assesses the progress and quality of the consulting project and the attitude and behaviour of the students based on the following criteria:

- Quality of the summary sheet
- Listening skills
- Consistency of the analysis
- Project progress
- Relevance of the questions asked
- Compliance with the methodology
- Mastery of knowledge
- Team cohesion

If the evaluation of the final oral presentation is completed straightaway by the jury, the final written report is evaluated by the programme coordinator within two weeks. In both cases, particular attention is paid to the quality of the writing in terms of spelling and clarity, and the formal evaluation considers the following criteria:

- Robustness of the academic knowledge
- Ability to collect, synthesize and exploit information
- Project understanding and presentation (market and company)
- Consistency of the analyses
- Relevance of the recommendations

Considering the specificities and importance of the oral presentation, a specific grid was developed to evaluate the quality of the communication skills based on the following criteria:

- Timing compliance
- Listening and communication skills
- Team cohesion
- Verbal expression, conviction and argumentation

While the students are evaluated collectively, we agree with the recommendations by Teckchandani and Khanin (2014), who suggest using individual assessments. In our case, this individual evaluation occurs at the end of the final presentation. The students have the opportunity to suggest to the jury that additional points should be awarded to a specific member of the team in recognition of specific contributions.

Regarding the evaluation provided by the client, we strive to maintain a clear demarcation with respect to the academic evaluation. Prior to the presentation, the clients must provide their own specific rating form, which includes details regarding the following criteria:

Attitude and behaviour:

- Communication abilities
- Involvement and motivation
- Compliance with instructions
- Team spirit
- Organizational skills

Attitude:

- Analytical skills
- Synthesis capabilities
- Initiative - Curiosity
- Responsiveness and adaptability
- Project understanding

The entrepreneurs who attend the presentation are required to not interfere and remain neutral until this very last moment during which they are invited to conclude by giving an opinion and viewpoint of the work carried out by the students. This delimitation and the relative weight given to the client's assessment are the result of two intentions. First, the weight of the academic evaluations recalls that the consulting mission has a pedagogical purpose, and the quality of the consulting activities represent a secondary objective. Considering the various challenges involved in student consultancy projects, the intent was also to protect the students from the risk of an arbitrary assessment (Cook et al., 2005, Lycko and Galanakis, 2019).

Discussion

Pitfalls

This pedagogical approach to teaching business models offers students the opportunity to better understand what it means to start a business through a real case but remains very demanding in terms of organization and follow-up. Despite all efforts, from the pedagogical and organizational perspectives, it remains difficult to ensure that each entrepreneur experiences a certain level of satisfaction given the number of projects to be supervised, their heterogeneity in terms of maturity and industry specificities and non-rational and affective dimensions, which are intrinsic to the entrepreneurial orientation. As previously described, the volume of projects is important, and the standard deviation within the same cohort of projects can be significant regarding the maturation of the entrepreneurial process or the willingness of the entrepreneur to invest enough time and effort to work in cooperation with the students. Sometimes, the gap between the students' skills and industrial knowledge required and the heterogeneity within student teams in terms of understanding, abilities and behaviour make it difficult for students at this level of study to fully address

the entrepreneur's expectations. Second, an important commitment in terms of time and effort is required from all constituencies, including the school, faculty instructors, students and especially the entrepreneurs (Cook et al., 2005). In this context, the competences and implications of the faculty instructors who are in charge of the tutoring sessions remain among the most important key success factors. Ensuring access to this very specific resource is even more difficult since in addition to the relative scarcity of entrepreneurship professors, the individual in charge of the tutoring session must be able to reconcile theory and practice and provide advice and recommendations without directly interfering with the relationships between the students and the entrepreneurs (Cook et al., 2005).

Lessons learned

Despite all these challenges, our experience demonstrates that the changes applied in 2016 contributed to achieving a better alignment between theory and practice and increased the overall consistency of the consulting project. First, the evolution of the business model curriculum has demonstrated that the selection and structuring of the subjects to be taught were important success factors (Samwel Mwasalwiba, 2010). Our experience particularly demonstrates that the use of the business model "*integrative framework*" proposed by Morrish et al., (2005) helped clarify the articulation between the strategic and financial modules. The structuring of the learning goals based on the six core components described in Table 2 greatly facilitated the learning process of the knowledge necessary for being able to assess the coherence of the project, particularly during the integration stage of the entrepreneurial process (Malmström, 2017; Shafer et al., 2005). Second, we found that the introduction of a business model development tool dramatically improved the overall consistency of the consulting project from both the pedagogical and managerial perspectives. From the academic perspective, our experience demonstrates that the use of a digital representation of the Lean Canvas and the Business Model Canvas fostered the adoption of a systemic thinking perspective (Olofsson and Farr, 2006) and helped the students approach the issues holistically (Heriot et al., 2008). We also noticed that the structuring of the analytic flow into a logical order and the possibility of deepening the details of each sub-section of

the core components of the business model (Malmström, 2017) allowed a faster and better alignment between the pedagogical objectives and the managerial expectations and a greater homogeneity among the deliveries. The implementation of the platform greatly eased intelligence generation and the collaboration and sharing of knowledge related to the core elements of a business model. Considering the challenges related to the generation of knowledge that is hetero-finalized jointly by the students and the entrepreneur (Bayad et al., 2010), the normative dimension of the platform facilitated the overall co-construction process between the teams and their clients and between the teams and the faculty instructor. The check-list approach helped the students uncover missing information or flawed assumptions prior to the tutoring sessions (Ebel et al., 2016; Szopinski et al., 2019) and facilitated the identification and explanation of the strategic inconsistencies prior to the two tutoring sessions. By homogenizing the reports and dissemination of information, the use of a common platform considerably helped the professors conducting the tutoring sessions follow up progress and take corrective action and the programme coordinator in the assessment of the final report. From the managerial perspective, the step-by-step analytical framework dramatically contributed to limiting the space for inventive and entrepreneurial approaches and limiting the tensions between the pedagogical objectives and managerial expectations. We discovered that the use of a business model development tool contributed to allowing a faster and better alignment between the pedagogical approach, which is *“data rich, rational and linear”*, and the pragmatism of the entrepreneurial orientation, which is more *“iterative, creative, action-focused data poor and even emotional”* (Morris, 2014, p. 8). Consistent with several authors who recalled the challenges related to the implementation of student team consulting projects (Cook et al., 2008, Heriot et al., 2008, Lycko and Galanakis, 2019), our experience suggests that the attention paid to the initial setup and the supervision through the use of a business model online tool are both crucial best practices.

Limitations

Our experience shows that at the end of the consulting project, the students have generally strengthened their skills in many areas. However, the assessment

approach suffers from two main limitations. First, the assessment is performed collectively and does not assess the development of specific individual knowledge and competencies (Tardif, 2006). A proper evaluation of individual skills and competencies would involve a much more structured approach, including the ability to address the measurement process at an individual level before and after the consulting mission (Walia in Manimala et coll. 2017). Second, a deeper examination of the formal evaluation grids reveals a stronger focus on soft skills at the expense of hard skills. Indeed, most criteria aim to reflect the overall implication of the team and the following individual soft skills considered important in the entrepreneurial context: leadership and social skills, time management skills, critical thinking skills, assessment skills, problem-solving skills and communication skills, especially persuasion. In contrast, regarding hard skills, it appears that the evaluation process adopts a much broader perspective in an attempt to assess how students succeeded in adopting a rational perspective to properly assess the strategic and economic validity of the entrepreneurial project. The criteria used for the evaluation of the tutoring sessions and the formal grid used by the jury to assess the final presentation express judgements regarding the coherence and credibility of the deliveries and, to a lesser extent, the quality of the consultancy.

Conclusion

Teaching business models using a consulting-based pedagogical approach is a fruitful and demanding avenue in entrepreneurship education. The reflections of the pitfalls and limitations highlight the difficulties associated with such an approach and perhaps explain why it is still not widely used (Morris, 2014). However, such experiential pedagogy provides a very appropriate perspective for the diffusion of *“business model thinking”* (Hogan and Warrenfeltz, 2003) and contributes globally to decreasing the *“knowing-doing gap”* (Pfeffer and Sutton, 2000; Williams Middleton and Donnelon, 2014), and we humbly hope that this feedback of experience could help to widen its adoption.

Appendix A: Choice criteria and comparison of popular business model visualization tools

Name	Reference	BM viz. tools	Financial assess. tools	Languages	Web based	Free	Reference
CCI Business Builder	Chambre de Commerce et d'Industrie de Paris.	✓	✓	French	✓	✓	https://business-builder.cci.fr
Montpellier business plan	Montpellier Méditerranée Metropole (France).		✓	French		✓	http://www.montpellier-business-plan.com
Strategizer	A. Osterwalder (2010).	✓		English	✓	✓	https://strategyzer.com
GRP Story teller	T. Verstraete (2010).	✓		French	✓	✓	https://storyteller.grp-lab.com
Detoolbox	B. Aulet (2013).			English	✓		https://www.detoolbox.com

Appendix B: Selection grid

I would like to have an external perspective to be able to decide between several ideas	A
I would like to have a recommendation of the type of tax package to be implemented	E
I wish to detail and validate the assumptions and figures used to demonstrate the economic viability of my project	D
I would like to start a business, but I do not have a clear and precise idea	A
I would like to identify suppliers and write a cache of charges	E
I want to ensure that my business model is solid	C
I would like to ensure that I anticipated the resources needed to carry out my project	C
I would like to better understand the needs and expectations of the market	C
I would like to obtain a list of potential customers and take advantage of the mission to start prospecting	E
I would like to be helped in defining what I do, my job, and my market	C
I want students to suggest ideas and enjoy their creativity	A
I would like the students to help me write the entire business model	D
I would like to carry out and price my communication plan	E
I would like to validate my financing plan and prepare my file	D
I would like to validate that my selling price is accepted by my target customers	E
I want to check that my project is solid, have a fresh perspective, and check if the students derive the same conclusions as me	B
I would like to have a questionnaire made to validate the interest of customers for my product and/or the acceptance of the proposed selling price	E
I would like to better understand my competitors and their strengths/weaknesses	C
I have a project but many questions as follows: which product? for whom? through which means? for which profitability?	C
My project has a level of confidentiality and/or expertise that is not accessible to students	B

Analysis:

- Majority of "A" => The entrepreneur is in the pre-incubation phase.
- Majority of "B" => The entrepreneur is in a position of mistrust towards students.
- Majority of "C" => The entrepreneur is in the incubation phase - level 3.
- Majority of "D" => The entrepreneur is in the incubation phase - level 4.
- Majority of "E" => The particular expertise required by the entrepreneur does not match the objectives of the BM consulting project assignment.

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About the Authors

Philippe Massiera After an initial managerial experience of about ten years, Philippe Massiera became professor of marketing and entrepreneurship in 2010. Holder of an MBA and a Master of Marketing, he graduated from Panthéon-Sorbonne University with a PhD in Management. In 2015 and was appointed head of the entrepreneurship department at EDC-Paris, in charge of redesigning the Master's degree in Entrepreneurship and Innovation within the Grande École program. In 2018, he moved in Canada. Associate professor at the École Supérieure de la Gestion of the Université du Québec à Montréal he teaches strategic marketing and entrepreneurial marketing.

