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### 1.1 Academic Paper

*Büchler et al.* (2020) Towards an Integrated Case Method in Management Education – Developing an Ecosystem-based Research and Learning Journey for Flipped Classrooms

### 1.2 Academic Paper

*De Haan* (2020) The added value of the case method still needs to be discovered in higher professional education

# IO 1 Results 1.1.

# Towards an Integrated Case Method in Management Education – Developing an Ecosystem-based Research and Learning Journey for Flipped Classrooms

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**Abstract**

In the field of management science and business administration, the case method is gaining ground in research as well as in teaching. Case studies are used on the one hand as an exploratory research approach and on the other hand as a problem-based teaching approach. However, we find that case research and case teaching remain unchained in management study programs and propose to close this gap. We identify an untapped potential of boosting the case method by integrating case-based research and teaching into a discovery and learning journey of applied science. It is suggested to embed the integrated case method in the ecosystem of universities thereby enhancing and intensifying the knowledge transfer between business and higher educational sector and better achieving learning objectives in higher education and in turn embedding the university in the ecosystem. As a result, this approach enables the development of a high level of contextual intelligence and thus helps to avoid the fallacies of teaching based on uniform theoretical content.

**Key Words**

Case method, case research, case teaching, higher education, flipped classroom, learning journey, management education, knowledge transfer, contextual intelligence

## 1. The application of the case method in management education

The case method comprises a broad set of applications in the field of management research and teaching and involves different types of case studies.

In the field of management research, a case study is an "*empirical method that investigates a contemporary phenomenon (the 'case') in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident*" (Yin 2018, p. 15). The objective of the case method is to identify patterns and understand causes of the underlying principles. The case study inquiry copes with the technically distinctive situation in which there will be many more variables of interest than data points, relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and benefits from the prior development of theoretical propositions to guide data collection and analysis. Thus, the case method is a predominantly qualitative research approach containing also quantitative instruments such as cross-classified tables and analyses as well as sampling protocols when the unit of analysis is e.g. a complex organization (cp. Gill 2011).

In the field management education "*the essence of a case study, the central tendency among all types of case study, is that it tries to illuminate a decision or a set of decisions: why they were taken, how they were implemented and with what result*" (Schramm 1971[1], as cited by Yin 2018, p. 14). *"A 'teaching' case study is a description of a situation, or an account of a sequence of events, commonly involving a decision, an opportunity, a challenge or a problem faced by a person, or the management of an organization, which raises issues for discussion and analysis in the search for a solution"* (Heath 1998, p. 11). Thus, the case method is a predominantly qualitative and problem-based teaching approach comprising different objects of numerical and mostly verbal information including several levels of complexity and conflicts thereby requiring the students to apply management theories or concepts and experience their limitations as well as necessary adaptations to a specific problem.

Having classified the case method as predominantly qualitative in research and teaching, we position the case method with respect to other methods in a centre position within the portfolio of qualitative and quantitative research and teaching methods (cf. figure 1).

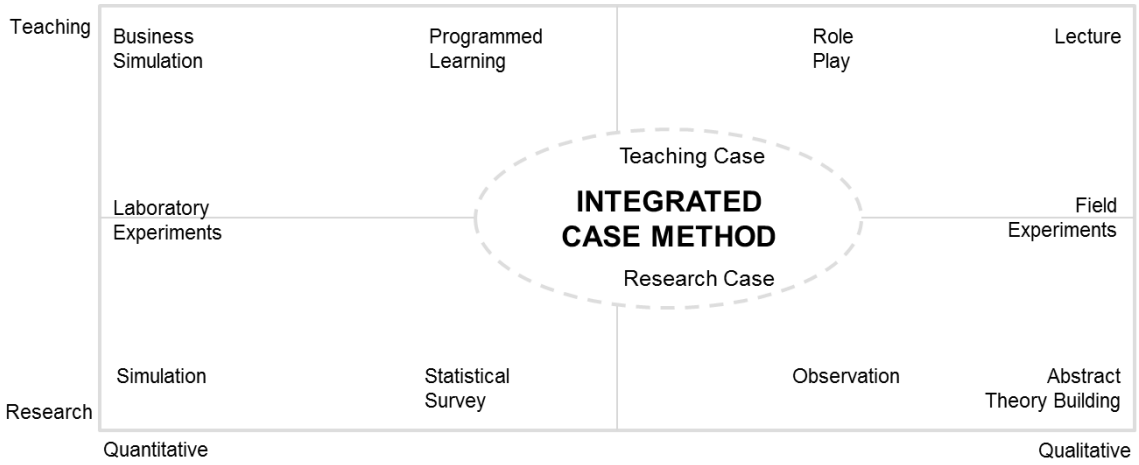


**Figure 1 Case method in research and teaching**

[1] *Notes on case studies of instructional media projects*. Working paper for the Academy for Educational Development, Washington, DC.

Qualitative research comprises manifold forms e.g. activities such as abstract theory building, field experiments or observations which fall outside the case method paradigm. Quantitative research comprises predominantly analyses concerned with the mathematical derivation, description and analysis of methods of obtaining numerical solutions such as statistical surveys, simulations of laboratory experiments. Teaching methods range from quantitative business simulations and programmed learning up to qualitative role-plays e.g. for negotiation training and lectures for conveying management theories and concepts.

In comparison to other research and teaching methods, case studies are more flexible and responsive to the respective environment in which they are embedded. This is associated with the exploratory philosophy of the case method in contrast to rigid-theory testing that is frequently advocated in research method classes and textbooks. We do reject rigorous theory testing at all. Rather we propose that an appropriate research philosophy must take into account the complexity of the underlying object in its environment being investigated.

This is our understanding of creating and developing contextual intelligence based on grounded learning as introduced in the next sections (Mosca / Howard, 1997; Schwarz, 1985; see as well Kutz 2008; Khanna 2014). We call this approach the 'Integrated Case Method'. In our eyes, teachers from multiple business and management disciplines shall be trained to complete the whole cycle of conducting case research in real-life business and transfer research insights into case teaching. This includes close contact to business and a reflection of the regional business ecosystem to develop practice-oriented teaching knowledge to relevant stakeholders of higher education institutions.

In the next sections, we try to develop the ingredients necessary to become part of a fully-fledged 'Integrated Case Method'. To this end, we, in a first step, will take a more narrow view on the process of developing, writing, and teaching cases itself, i.e. the procedure developing cases without taking a broader view on the specific context this procedure is applied to. We call this the 'process model' of the 'Integrated Case Method'. In this context, we first advocate a process of inductive learning based on self-created case studies with the active involvement of students in all process phases, i.e. case research, case writing, and case teaching. In this respect, reference is given to the grounded learning approach where the learning activity is based on personal involvement. We argue that the active involvement of students, especially in the case writing phase, offers the opportunity to systematically integrate the specific needs and perspectives of students into real business cases studies. The second integral ingredient of the process model the so-called 'case-based learning journey'. The learning journey concept is an approach to design a teaching framework with multiple touchpoints and interactive events across different phases of a cased based curriculum. This includes in-class as well out-of-class elements procedural learning. The most important element is that in a case based curriculum series of case studies shall complement each other and support intensive discussions on conflicting management theories and business practices. The third proposed major ingredient of the process model it the 'flipped classroom' vision of cased based learning. We propose to design a teaching approach where students are introduced to the learning material before class. Lecture time then shall be used to deepen the understanding of the theory through discussion with peers and problem-solving activities facilitated by teachers.

After the discussion of integral parts of the 'process model' of the 'Integrated Case Method' we will broaden our view to the contextual environment of a higher education institution. It especially refers to the aim and value contribution of the ECASA project. The business ecosystem matters for developing contextual intelligence necessary to cope with the challenges of real-life business. Trying to apply management practices uniformly seems to be one of the major pitfalls in modern business societies. Societal conditions and institutions differ immensely from place to place. This does not only include

conditions of economic development but of institutional character, physical geography, educational norms, language, and culture (cf. Khanna 2014; Voigt 2019). For this reason, in Section 3, we develop a wheel of circular knowledge transfer in as a further integral part of the 'Integrated Case Method' to ensure that the business ecosystem is recognised in a case-based curriculum of higher education institutions.

## 2. Integration of case research and case teaching as a grounded learning approach

### 2.1 Case writing as the missing link of case research and case teaching

The conventional use of pre-written case studies in case-based education is a widely practiced approach in management education. Several studies analysed the benefits and shortcomings of case studies as a pedagogical technique (cf. Christensen / Hansen, 1987). Benefits are the immersion of students into a complex, messy and context-specific situation (cf. Shulman, 1992) stimulating personal reflection, emphasizing introspection and the development of professional knowledge through the activation of analytical thinking (Kleinfeld, 1992) on the one hand and decision-making abilities through walking in the shoes of management in the case study on the other hand. Shortcomings are a oversimplifying "best practice" thinking showing a deficiency in theoretical background or research competence (cf. McKeachie, 1994; Mayo / Nohria 2005; Khanna 2014) and a too narrow perspective on a few existing thought patterns and models of a number of big companies (cf. Argyris, 1977).

Balancing the pros and cons of case method in teaching, the vast majority of scholars and students takes a clear stance in favour of case teaching. However, faculty members concerned with the development of study programs cannot overlook the detriments of the case method. To this end, new pedagogical techniques are being developed. Kirby et al. (2010) identified that case writing performed by students serves as an effective pedagogical technique. For this reason, writing own context-based case studies by integrating students in the case writing process forms a central anchor of the 'Integrated Case Method'. This might range from support of students in case research and writing up to writing own cases by students. The case writing assignments for students are integrated into a strategic management course: "*In a nutshell, students work throughout the semester writing their own case study. Depending on the size and level of the class, this can be done independently or in small groups. Students select a business situation that interests them, find out as much as they can about the situation, the specific company, its industry and its external environment, and conduct a thorough analysis of the issues*" (Kirby et al. 2010, p. 200).

Integrating case writing into teaching is based on the theory of grounded learning (cf. Mosca / Howard, 1997; Schwarz, 1985). Grounded learning is essentially a process of learning inductively from interactive involvement with the phenomenon being studied (Smith et al. 2008). The learning activity is grounded due to the personal involvement of students providing them with a sense of "connectedness and continuity" in a complex real-life business situation (cf. Senge, 1990). In that way, grounded learning is conceptually similar to the process of developing grounded theory in exploratory qualitative research. A theory is considered as "grounded" when it fits with reality, makes sense to everyone involved, provides intuitive generalization across similar circumstances, and allows some form of control over the phenomenon (cf. Glaser & Strauss, 1967).

A grounded learning approach comprises the following learning elements: (1) it is based in a real business context, (2) is stimulates lateral thinking and transfer across different contexts, (3) it integrates research methods, management theory and business practice with an application focus, and (4) it is clearly learner-centric (cf. Mosca / Howard, 1997, Kirby et al. 2010).

According to Kirby et al. (2010) case writing represents an effective technique for conducting grounded learning in management education. It has been integrated in management education successfully by

the aforementioned authors thanks to giving students a clear guideline of (1) selecting a business situation, (2) gathering information, (3) organizing information, (4) writing the case study, (5) writing teaching note and preparing teaching material and (6) running the case with their fellow students.

The Center for Applied Studies and Education in Management (CASEM) tested and refined case writing as a grounded learning approach. Over a period of three years we introduced master students and advanced bachelor students to case writing in several study programs and courses (International Management, Strategic Management, Global Brand Management and Supply Chain Management) at three international European universities (University of Applied Sciences Dortmund, University of Cologne and HEC Paris). In total 540 students in 15 management courses generated 150 case studies, teaching notes and supplementary teaching material. In a competitive format, the best cases have been published in a teaching casebook (cf. Büchler / Decker 2017).

In further development of this approach, CASEM motivated students to write all cases on own primary research and not on secondary data from desk research sources any more. This approach required (1) sophisticated research capabilities of the students and (2) sufficient companies from the universities ecosystem willing to cooperate in case-research. Consequently, CASEM bolstered students with the required qualitative research techniques for data collection from various sources e.g. expert interviews, and data triangulation, which represent the methodological essence of case research. Thus, a methodological tutorial on case research has been integrated in all course modules to end of improving the applied research capabilities of students and deepening the learning experience. From this perspective, we consider case writing as the missing link for integrating case research and case teaching (cf. figure 2).

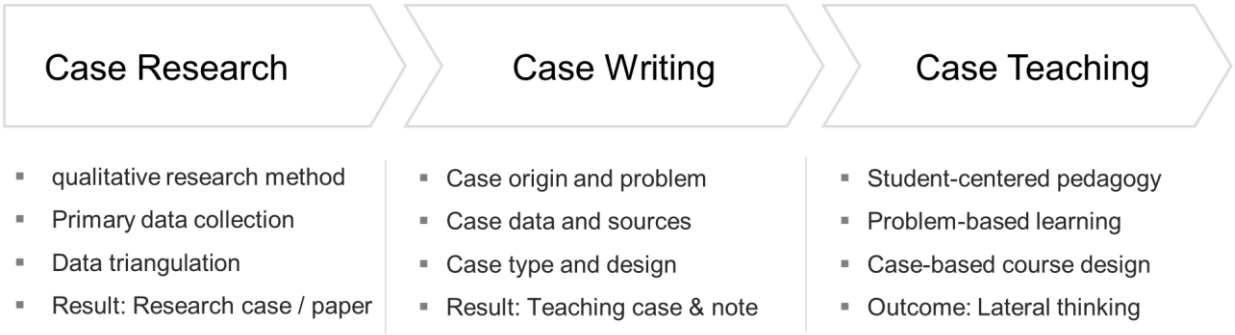


**Figure 2: Integrated case method as a process model**

Course evaluations show highest appreciation by students resulting in the development of a deeper understanding by students' stronger interest in their chosen case and more intense identification with the case problem in contrast to pre-written cases. In addition, students are stimulated to work-out alternative solution to a case problem when preparing the teaching note, thereby changing perspectives and discussing trade-offs with on a higher level. Finally, they develop a sophisticated sense of ownership for achieving learning objectives and realizing relevant outcomes in class by inverting the roles of teacher and student.

### 2.2 Design of a case-based learning journey

The learning journey concept is a learner-centered approach to design a teaching framework with multiple touchpoints and interactive events across different phases of experience in analogy to the customer journey concept from marketing (cf. Lemon / Verhoef 2016). A *learning journey* is a curated collection of learning content, both formal and informal, that can be used to acquire a pre-defined set of skills or achieve a specified learning outcome. Thus, a structured learning experience provides the learner with a framework and schedule covering different touchpoints across several learning on- and

off-line channels and sources. Traditional learning journeys are pathways on established grounds i.e. approved connections or bridges to allow learners to easily navigate through the course content of the so-called known-knowns.

A case-based learning journey builds the learners' experience on a planned sequence of case studies and associated teaching material such as academic articles, book chapters and eventually current social media news from Twitter or Research Gate. The case studies and teaching material are orchestrated for a maximum of stimulation of learners across different channels e.g. on- and off-line and locations e.g. in- and out-of-class (cf. figure 3).

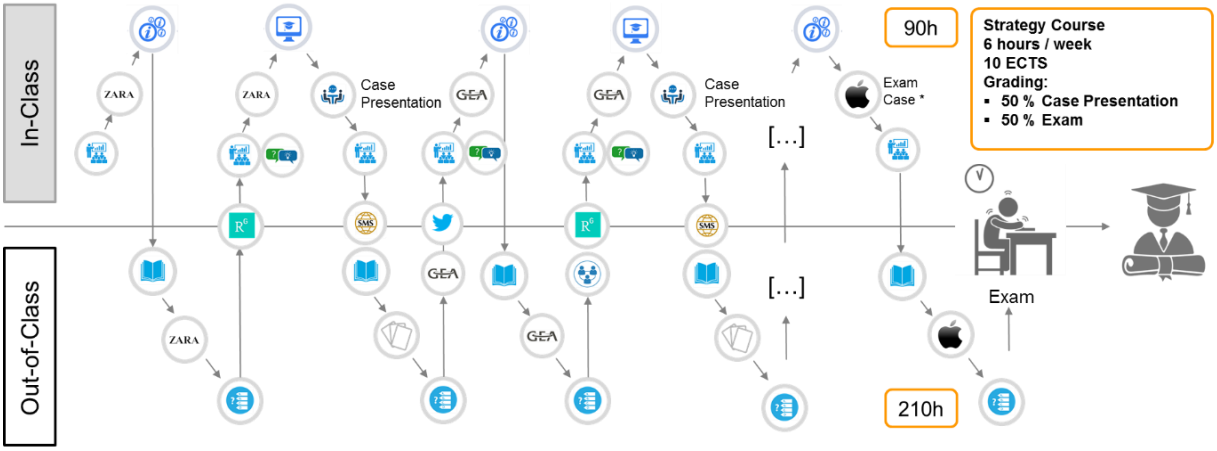


**Figure 3: Case-based learning journey**

The case-based learning journey as illustrated above and realized by business schools nowadays aims at maximizing students' involvement and preparedness in-class by stimulating their curiousness and willingness to learn. To this end, multiple channels with digital touchpoints such as Twitter, Youtube or Research Gate are integrated as well as elements of gamification such as quizzes. On Twitter students are e.g. required to follow corporate accounts associated to the case study assignments. On Youtube students are e.g. asked to watch and summarize interviews with researchers on the channel of the strategic management society. On Research Gate students need to research for latest publications e.g. working papers on a specific topic.

However, the most important element of the case-based learning journey is the series of case studies complementing each other and supporting intensive discussions on conflicting management theories and business practices. Yet, most business schools use pre-written case studies and case teaching exclusively for case-based learning programs.

The integration of case research and case writing in the design of case-based learning journeys requires two major adjustments in the pedagogy and course outline:

(1) Case research competence, i.e. the basic application expertise of qualitative research instruments by the learners needs to be safeguarded. Thus, a method training should prepare students with these essentials and take place at the beginning of the course. Additionally, the course design should provide enough time in-class for discovery-driven research, discussions on results and alternative solutions for a specific case problem.
(2) Case company involvement throughout the course requires sufficient time for students to visit company representatives, conduct expert interviews and analyse the various data points as a basis for the case writing assignment. At the end of the course, the developed case should be tested in-class and presented as well to the case company.

As a result, an integrated case-based learning journey inverts the tasks of students in- and out-of-class fundamentally by bringing open research topics and problems to the class and by exploring jointly these problems and staging discussions about alternative solutions. This leads to the further requirement of a flipped classroom.

### 2.3 Design of a flipped classroom for case-based learning

Flipped learning is a pedagogical approach in which the conventional concept of classroom-based learning is inverted. Students are introduced to the learning material before class and are obliged to read and understand theoretical concepts themselves out-of-class. The classroom time is used to deepen understanding of the theory through discussion with peers and problem-solving activities facilitated by teachers (cf. TED 2011). The flipped classroom intentionally shifts the learning journey from an instruction-centered towards learner-centered pedagogy in which time in the classroom is used to create meaningful and unique learning opportunities (cp. figure 4). Students explore contents, test their skills and collaborate. Instructors provide counsel and orientation through one-on-one support when needed. The flipped setting establishes a dynamic context in which students are enabled to do their own research to obtain results. This approach attempts to bring the highest value of the knowledge and experience of professors to the controversial discussion of content in class. Thus, the flipped classroom adds value to the face-to-face interaction between students and educators.

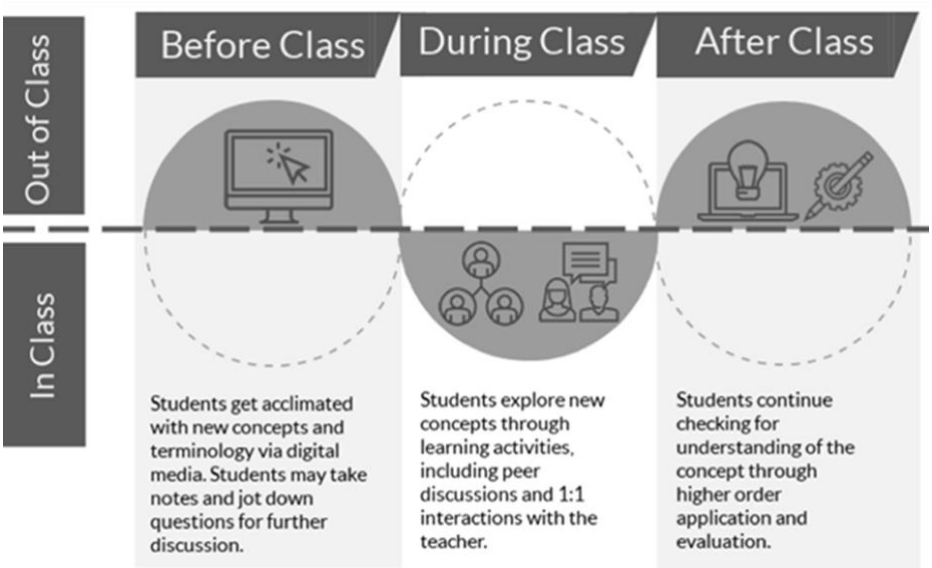


**Figure 4: Learning journey in a flipped classroom**

There are several types of flipped classroom such as debate-oriented, demonstration-based, group-based, virtual or double flipped classroom. The double flipped classroom type puts the learner in the role of the instructor. In this model students do not only demonstrate their own knowledge and results but teach their peers with an appropriate learning method. The act of showing or teaching how something is done reinforces learning. While the flipped classroom focuses on mastery the traditional education aims to cover subjects to test memorization.

We conclude that the integrated case method – combining case research and case teaching – is a learner-centric, research-based and use-driven learning journey that connects students to real-life business. The necessity to embed such an integrated case research and teaching approach with business in the universities ecosystem creates a second level of integration and enhances the universities' third mission.

## 3. Integrating the case method in ecosystems of higher education institutions

The fundamental contribution to society by higher education institutions (HEIs), esp. universities lies in the creation and transfer of knowledge and engaging with society in its application and on-going refinement. "The university's new centrality is inextricably intertwined with its role of orchestrating multi-actor innovation networks" (Reichert, 2019, p. 22). Thus, old key functions of the university concerning fundamental research and education have been given a new emphasis on networked processes of knowledge creation in the ecosystem of universities.

An ecosystem in general is analogous to a biological ecosystems and represents a dynamic structure consisting of an interconnected and interdependent population of organisms or organizations (cf. Moore, 1996). In the specific context of universities, this population of organizations comprise small and mid-sized enterprises (SMEs), large corporations, universities, research centres, public sector organizations and other parties with influence in the system (cf. figure 5).

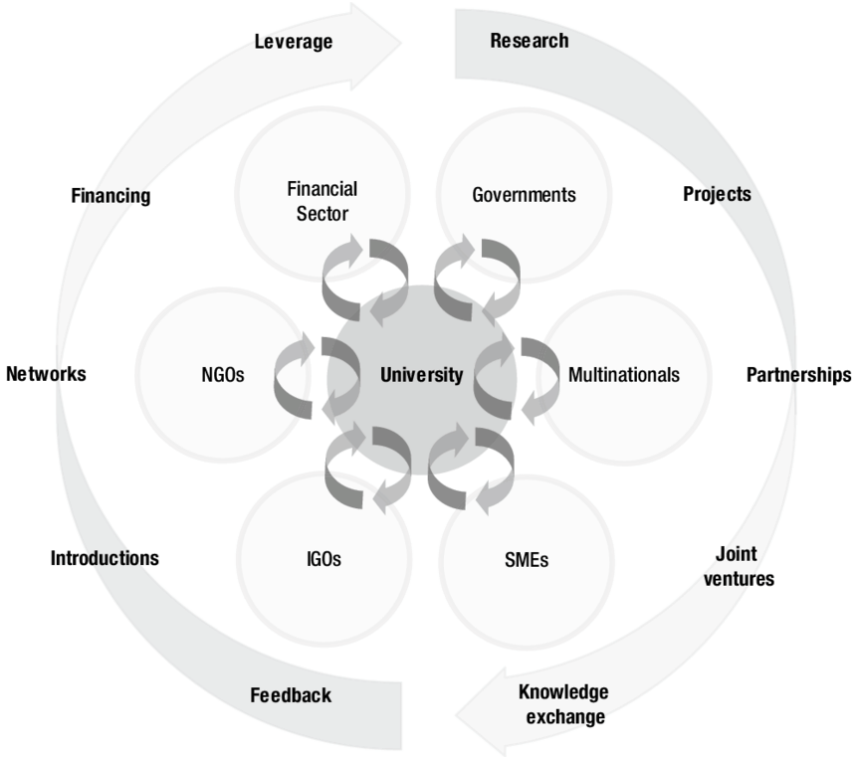


**Figure 5: University ecosystem (cf. Stagars 2015)**

Following the ecosystem metaphor companies and universities serve as organisms and industries or study programmes represent the species in that ecosystem setting. Like organisms and species that make-up the ecosystem, the firms, universities, industries and study programmes have coevolved to form a vast living ecosystem (cf. Rothschild 1990, 337). The organisms and species come together in a partially intentional, highly self-organizing and even somewhat accidental manner. Thus, the characteristics for the development in ecosystems are self-organization, emergence and co-evolution, all of which help to acquire adaptability. Competition and cooperation are simultaneously present leading to an understanding of co-opetition (cf. Child / Faulkner 1998).

The role of the universities in their regional ecosystems is that of a facilitator of joint knowledge creation and a catalyst of knowledge transfer and dissemination. To this end, engaging with external stakeholders constitutes a third vital role of universities in their ecosystems. "While this role has always been an integral part of university management and leadership and has attracted targeted institutional support in the last two decades, it has now become a central strategic concern, often of the highest

priority for institutional leaders" (Reichert, 2019, p. 37). One of the reasons for universities giving engagement and collaboration with external partners a higher priority is the general opening up of the research and development processes of companies through new models of open innovation and substantial increase in applied collaborative research (cf. Chesbrough 2003).

In addition to the research side of knowledge creation, universities are to offer continuing education and professional development courses: Universities are conducting knowledge exchange by way of diverse offers of continuing education and continuing professional development following a life-long learning philosophy and continuous knowledge transfer. Project-based learning is perceived as a key ingredient of teaching methodologies and curricula. In particular, it was stressed how important it was to link theoretical learning with the solution of real-life problems presented by companies in the region. This requires universities to establish interfaces between research development with high potential and innovation priorities of their regional or national innovation systems.

The 'Integrated Case Method' as developed in this article seems to provide a suitable approach to fuel the knowledge creation and transfer between universities and their ecosystem in a sustainable and systematic way. Therefore, we consider a further refinement of the integrated case method embedded in the universities' ecosystem by integrating case transfer as a fourth stage, thereby creating a wheel of circular knowledge transfer (cf. figure 6).

The (1) regional ecosystem is the starting point of the integrated case method. A thorough screening helps to identify relevant stakeholders and evaluates their network relations within the ecosystem as a basis for case research. The identification of relevant partners for primary case research is driven by the research scope. The case research covers the different primary research activities and the triangulation of the various qualitative and to some extent quantitative data points. The development of a (2) grounded learning approach builds on a pedagogy of case research and writing as a unique learning experience for students, which fosters direct exchange between students and experts of the ecosystem. The results are all kind of teaching cases suited for higher education institutions as well as training cases for companies e.g. in their in-house training program. The case writing is integrated in a 360° case review process model incorporating peers, students and practitioners.The (3) implementation of the case method aims at d developing the case method as an integrated approach in research, teaching and business training offering discovery-driven learning journeys in case-based study programs for improved learning results. The concept lets students flip roles with the professors in teaching their prior researched and written cases to their fellow students and master the learning experience of the course. Regional case companies are involved in this teaching demonstration and meet students in the respective course at the university or host the course at their headquarters. Additionally, case competitions could establish a tournament for researching, writing or teaching the best cases for pairs of student researchers and case companies. The (4) knowledge transfer builds on the tight relations of universities, companies and other institutions within a regional ecosystem. It makes knowledge accessible and bridges networks of knowledge first on a regional level, and additionally might extend the reach on (inter-)national levels. This requires an established a case study network between research centres of European universities, corporate partners and regional institutions, which is the aim of the European Case Study Alliance (ECASA). In this regard, 'Integrated' means to develop case teaching from universal and oversimplifying case studies designed for a flat world towards a contextual case study approach tailored to European higher education requirements. This contextual approach embeds case companies and learners in different settings and develops their sensitivity concerning differences in regions, cultures, local market conditions as well as social and economic differences. As a result, a circular learning and networking process between European business regions emerges that tends to enhance each regional ecosystem.

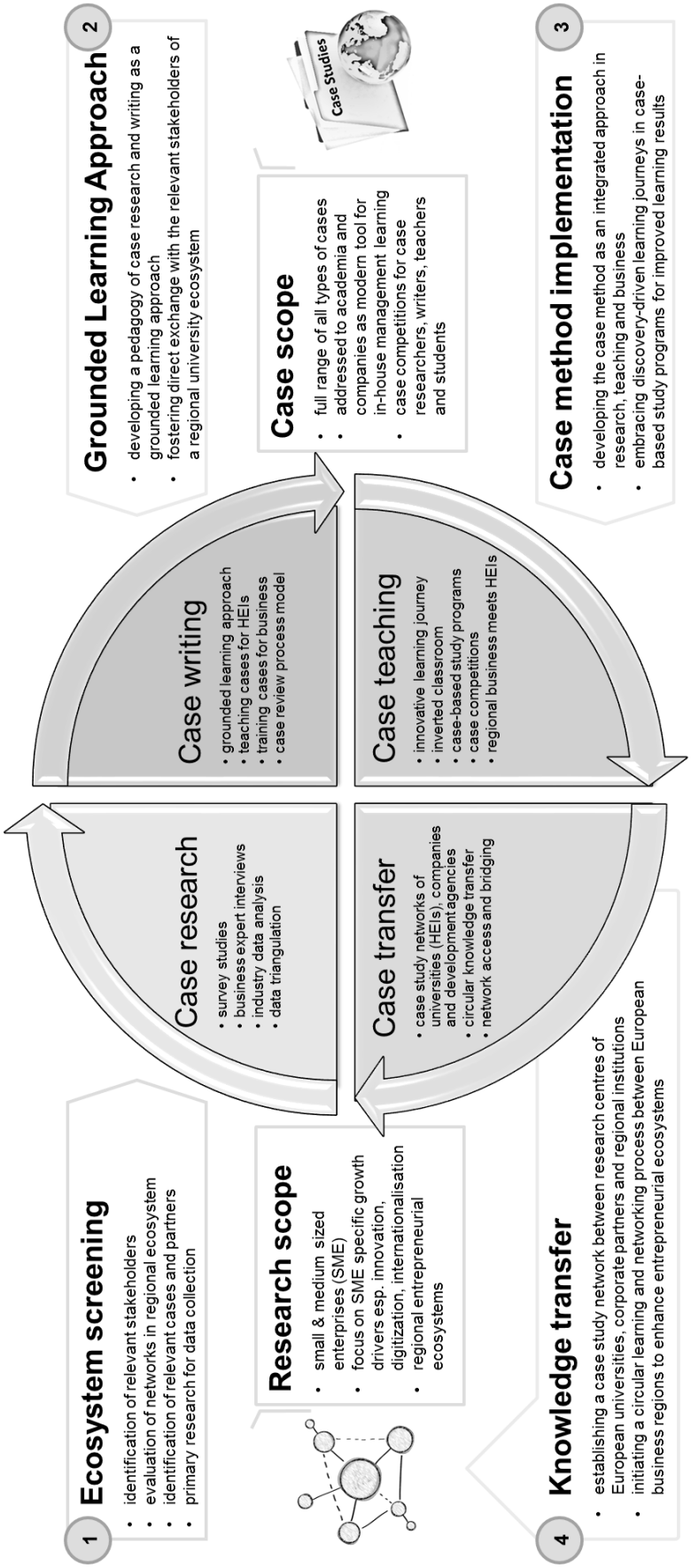


**Figure 6: Integrated case method embedded in regional university ecosystem**

The aforementioned case research and review process starts with a screening phase of relevant and suitable case problems in the regional ecosystem of the university that is performed by the academic staff in cooperation with the partners of the ecosystem. The outcome of this stage is a defined objective and scope of the intended case as well as a partnering company willing to undertake joint case research. The second stage of case research starts with field research by student case researchers based on qualitative and/or quantitative interviews and data collection and analyses. The third stage is focusing on the writing process of the case study and teaching note. Afterwards the first review of the case study and teaching note takes place based on 360° review process (cf. figure 7). The fifth stage is about testing the case in classroom or company training situations followed by a final review of the case study and teaching note and final approval for publication by the case company, which is the basis for case transfer.


**Figure 7: Case research and review process**

Practitioners from the case companies in the regional ecosystem, international student groups of study programs as well as faculty members from ECASA partners (cp. figure 8) realize the 360° review.

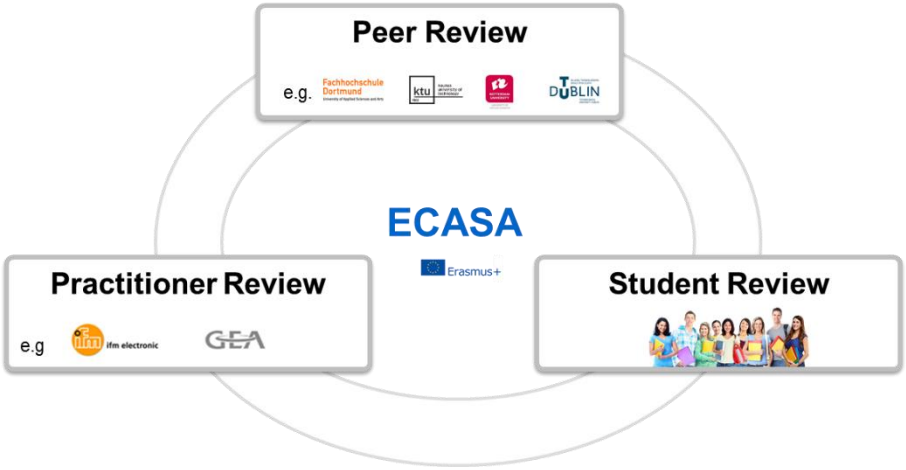


**Figure 8: 360° Case Review**

The outcome of this thorough case review process are high quality cases due to a referee system, comprehensive teaching notes, alternative analyses and solution outlines.

## 4. Shifting the research and teaching paradigm

The integrated case method presents an innovative learning journey for flipped classrooms and is new to management education. The integrated case method changes the roles of professors and students in a fundamental way. Professors change their role from a knowledge provider or broker towards a facilitator of knowledge creation in a joint discovery-driven research projects. Therefore, professors move away from the role of examining distributed knowledge towards a challenger of different perspectives.

At the same time, learners change their role from being a recipient of knowledge towards being a creator and user of knowledge. Learners begin to regard themselves as problem-solver and decision-maker ant not as an examinee or student anymore.

These changes require a comprehensive refinement of conventional study programs. Professors and students need to have more profound case teaching experience throughout the study program in order to deal with the task of case writing and case research. Thus, a case-based curriculum is an important precondition.

The European CAse Study Alliance (ECASA) focuses on the integration and refinement of the case method to the end of improving learning outcomes and contributing to the third mission of universities as important knowledge networkers in their ecosystem.

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# IO 1.2. Results

## The added value of the case method still needs to be discovered in higher professional education

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## Abstract

It is clear that developments in the social and economic world are more complex and difficult to predict than a few decades ago, due to the exponential growth of information and rapid technological progress. This places fundamentally different demands on work and other economic activities and - therefore - also on future generations of students. Case method in our view is suitable to prepare student in meeting these demands. In this article we will present the problems that we have been encountered by applying the traditional Harvard case method in the past five years in our Bachelor at Rotterdam university of Applied Sciences. Nevertheless, we are convinced about the added value of case method for contemporary higher professional education, after making continuous adjustments and improvements.

## Introduction

It is clear that developments in the social and economic world are more complex and difficult to predict than a few decades ago, due to the exponential growth of information and rapid technological progress. This places fundamentally different demands on work and other economic activities and - therefore - also on future generations of students.

The following trends are already visible in educational practice: a transition from individual to collaborative learning, from passive to active learning, from agency-oriented to discussion-oriented education, from the student as a knowledge consumer to the student as a (co) producer of educational content and knowledge. The focus in education is shifting from standardized teaching and testing to developing competencies in a rich and fascinating educational environment in which students and the professional field play as important a role as the teachers. These competencies, such as holistic and critical thinking, multidisciplinary collaboration, self-management and perseverance, are essential for students, but also require other pedagodic and didactic skills from teachers.

Case method has its strength in dealing with complex practical problems, stimulating multidisciplinary discussions and active learning attitude of students and attracting companies to collaborating with universities in finding solutions for their problems. Therefore, in 2015 a group of eight teachers at Rotterdam University of Applied Sciences started to apply and examine case methode in their teaching and research. In this article, we would explain why we think that the case method is promising after five years of experiment and implementation in educational practice. We then examine the potential added value of the case method for some parties directly involved in higher professional education. We conclude the article with a brief conclusion.

## 1. What are the problems we encountered when apply case method in the way as we are used to?

### 1.1 Blindly following the Harvard case method

The use of the case method is an integral part of business training, legal education and medical and health studies. The Harvard case method is best known in business education, where the cases are used for explaining abstract theories, for discussion in the classroom, or as a source for test questions. This case method is not only widely used in Harvard itself, but also in other (top) universities, confirming the effectiveness of this method time and time again. However, the success of the Harvard method assumes that a number of conditions are met. The effectiveness stands or falls with good preparation and active participation of the students. Students should come to the lectures with self-acquired knowledge and targeted questions, and enter into discussion with fellow students from a competitive attitude. The Harvard case method as originally conceived is therefore particularly suitable for highly motivated and independent students.

According to our knowledge Dutch teachers and educationalists regularly follow training courses in the Harvard case method, if necessary in the United States. But the question is whether, with the usual application of that method, the same effectiveness can be achieved for the average Dutch student. Dutch students appear to be less motivated than students in other countries, according to the OECD (2016). They prefer to avoid difficult problems and, as is our experience, often hardly come prepared to class. And if they tackle those problems, they are less interested and less focused on them. The way in which the cases are usually taught - passive, frontal - is also not conducive to motivation. Now it is not for us to express a value judgment about the attitude of students (and teachers) in this article. What matters to us is that the Harvard case method cannot be blindly applied as one of the many didactic methods without understanding the increasingly dynamic learning environment and the background and attitude of the different types of students.

Although this article is based on our experience with teaching Dutch students, like students form other countires, students at university of applied sciences tend to be more interested in grasping the relevance in applicability of the learning content during their study. Typical Harvard business cases, however, are dealing with content that is only of limited value for the business world they perceive in their everyday life. And to be honest, in most cases they will even get to know a different business world once they have left academia. Therefore, the question of how to tailor our teaching offer to this legitimate claim and to improve student motivation is critical in contemporary higher education.

## 1.2 Costs of cases

The most consulted sources of cases are the well-known databases of universities and publishers. These are not open source for other educational institutions but work with subscriptions and teachers can search for different types of cases in the database and get a short description. Downloading the case is not possible without a paid subscription. In the economic domain of the Rotterdam University of Applied Sciences, a subscription has been used in recent years because more cases were needed for different study programs. It requires some perseverance and experience to find suitable cases in these databases. Given the huge number of cases, and the difficulty in using the correct search terms, it is difficult to find the right case that fits with the need of teaching. Therefore, there is a chance that teachers who want to get to know the case method after consulting the database will stop searching after the first or second attempt.

Once the case has been found, it must be requested per module for a specified number of students. If the same case is used in another module of the same course, it must be requested again. Only registered teachers from a subscribed institution have access to the database and can order cases. The teacher must print the case him/herself and have it copied for the maximum number of participating students. These hard copies must be destroyed after the lesson, module or exam. With such a subscription, students do not in principle have access to

the database nor are allowed to download cases. For a different type of subscription, the student is allowed to download the case and pays for the number of downloads per module.

For large programs and for temporary use, money does not have to be a problem but there is a risk that the institution will become dependent on commercial case databases. This has become a general problem in the practical application of commercial business case teaching. This risk can be avoided. One possibility is that a teacher taps into his/her own network and exchanges written cases with colleagues within and outside his/her own institution. That is possible with closed exchanges, but there is a limit to that. Teachers often write these cases partly in their own time, and these cases are used for a number of years, with or without minor adjustments. As a result, the quantity is limited and it is not self-evident that the case of one teacher is automatically applicable in a course of another teacher at another institution.

### 1.3 Missing European cases: Lacks in regional relevance

In the business schools in Western countries (United States, England, Canada), the intensive use of cases in education is widespread. This increasingly applies to a number of Asian countries (China, South Korea, Japan and Singapore). Compared to these countries, case wirting and teaching in the Netherlands is still lagging behind. In 2018, the Business Innovation Knowledge Center of the Rotterdam University of Applied Sciences, together with its German partner Center of Applied Studies and Education in Management at Fachhochschule Dortmund, analyzed the cases in the Case Center Database for a number of characteristics. This analysis shows that only two percent of the total number of published business cases between 2013-2018 relates to medium-sized and small companies (SMEs) in a European context. The vast majority, 90 percent, comes from the continents of America and Asia and 75 percent of the cases relate to large multinational companies.

Although such cases are interesting in themselves, it is a reality that probably does not, or hardly, match the everyday experiences of many business students. They study at a Dutch university and do their internship and graduation research at small and medium-sized companies (SME) in the region, or at most at a college or institution elsewhere in the European Union if the college has a connection with it. Moreover, the known databases only contain English-language cases. Even though this is not a major problem for students of English-language courses, they regularly ask why so few European cases are used in European business courses. They have chosen to study in the Netherlands or another European country to gain more knowledge and insight into the European style of thinking and acting, in management and economics. With English-written cases about multinational companies, it is not obvious that these students will succeed.

### 1.4 Missing integration of teaching and research

Although the connection between education and practice-oriented research in higher professional education has improved over the past decade (De Jong, 2016), there are still some persistent problems due to the separation in budgeting and assessment of education and research, among other things. This separation offers little scope for the integration of educational activities in research projects and for the financing and appreciation of the feedback of research results in education.

Research output is currently not measured differently in higher professional education than at universities: by the number of publications in scientific journals, in (one or more chapters of) books and at conferences. In practice-oriented research which is the type of research conducted at university of applied sciences, however, the emphasis is on building up relevant knowledge for the professional field that should contribute as directly as possible to solving real problems in professional practice. This cannot and will not always result in a publication in a renowned scientific journal.

The relevance of that output for lessons and / or curriculum development is also of secondary importance. Searching for and writing real-life cases from the region, which then function as educational and research material for students before feeding the results back to the organization: all of this falls outside the standard methods of output measurement, even though it does justice to the practical orientation of research and education in higher professional education.

Moreover, self-trial and error investigation, analysis of a real-life case and advising the case on the basis of that analysis can lead students to realize that research is not necessarily abstract and boring; that it is relevant to conduct it for graduation and that it may be used later, in their professional career.

In short, writing and investigating cases from organizations in the region of the higher professional education institution accentuates the practical nature of higher professional education. At the same time, it necessitates a reassessment of the distinction between and the valuation of educational and research activities. More importantly the value of engagement with practical field and supporting regional economic and scoail developments is central to the mission of many higher education institutions, therefore it is axiomatic that written case should be included in the research output measurement.

## 2. the traditional way of applying Case method should be challenged

Everyday reality is constantly changing and at an increasing pace, so that the theories in the textbooks age at the same pace. The current situation in the world is summarized with the term VUCA (Volatile - volatile, rapidly changing, Uncertain - uncertain, Complex - complicated, Ambiguous - vague, ambiguous; US Army Heritage and Education Center, 2018). In such a world, organizations and professionals need new approaches to tackle internal and external

problems. The current relevance of the VUCA world makes it even more necessary to look critically at current educational practice. Teaching frontally and in class about self-contained courses and testing the ability to reproduce knowledge does not fit with the fleeting, ambiguous nature of professional practice. Students must be challenged to think ahead, to see links between different job areas and to promote change and solve problems, if possible in a team context. Over the past three years, we have come to know and apply the value of the case method as an innovative, practice-oriented and multidisciplinary method in our educational practice. Below we will discuss the added value of case method for students, teachers and professional practice in order to prepare them for this VUCA world.

## 3. Added value for students

The requirements of theories and models in existing educational practice - that these are unambiguous, precise, specific and capable of no more than one explanation - do not apply in the VUCA world. In such a world, there is seldom or never one correct answer to a problem of action. We call lifelike current cases that are based on problem situations, events and / or developments of real existing (groups of) persons, companies, or institutions VUCA cases. Such cases offer suitable material to enable students to practice acting in a dynamic, multi-dimensional, complex and not very supportive professional environment, given certain background information. Due to their complexity and sometimes paradoxical nature, VUCA cases will almost always be able to be elaborated in more directions and mutual cooperation and analysis from different angles and disciplines will be necessary.

For example, students from the economic and technical domain (ICT) have worked together on a professional assignment on how industrial 4.0 technology can help a company with promoting error-free operational processes (operational excellence) and with renewing its marketing strategy. And in the legal higher professional education courses there is, for example, increasing attention for the possibilities of legal technology. For this, the legal problems of citizens and organizations are not only used for legal knowledge and skills, but also for the possibilities of communication sciences and ICT (Van den Berg, 2018; Kuiper, 2018).

In this way, students learn to think and act in a multidisciplinary way and discover the interdependence - or lack thereof - between concepts from different disciplines (Misra et al., 2016). They will experience that few solutions are obvious, that more solutions are possible and that the road to this is quite a struggle. As it was formulated in one of the student groups who followed our case-based education: "*With an action problem we often only see the immediately observable symptoms of that problem, comparable to a diseased plant above the ground. Through the case method, we have learned not only to look at what is happening above the ground and to investigate that, but also to look deeper and broader for phenomena and causes, for example the root system, the quality of the soil, the amount of sunlight. This means that our problem-solving skills are better aligned with what professional practice really needs* ".

VUCA cases offer the same advantages as other innovative educational practices. Just like the living lab and the field lab, the case method is characterized by an optimal relationship between theory and practice. However, a special advantage of the case method is that it makes it clear that in the VUCA world there are no standard answers or only one specific route to a solution. The student teams follow different searches and come to different answers to the issues in the case. Often more than one answer or a combination of different answers will be approved by the client (s). The realization that there are more paths to success promotes the self-confidence of the students. As an American student who took the case-based minor at the Rotterdam University of Applied Sciences, said: "*When I came to your program, it was my biggest fear, what if I fail? In United States, I also did business cases and participated in case competitions but they only want the best solution. The rest they shut them all down. All your hard work is then for nothing. I also dropped out of a class for this reason. But here you do things differently; teachers appreciate every possible solution, encourage every team to work out their own ideas. This is the biggest gift I got from your Dutch education system. I start to look at things differently than at home. There is a lot more than the one best solution*." This student's experience with case method in the Netherlands demonstrates also the difference between the difference between our way and the Harvard way of applying case method.

## 4. Added value for teachers

The offering and handling of cases has been, up to now, usually a monodisciplinary affair and linked to the subject area of the teacher involved. The reason for this is obvious: teachers from one subject area of a study program usually do not know the content of the other subject areas or have insufficient knowledge of them. Another reason is the traditional design of curricula. A business school curriculum, for example, includes courses in four functional areas: management, financing & accounting, marketing & sales and operations. In legal education, knowledge and skills are generally still offered according to the traditional classification in private and public law and in some functional areas of law. In recent years, more attention has been paid to subjects such as sociology of law, legal psychology, and economics of law, but insights into the social and economic context of law are rarely found law education at universities of applied sciences.

In education, little research has been done into the relationship between the case method and multidisciplinary collaboration (Volpe, 2015). Research in the medical and healthcare sector shows that there is a positive relationship (e.g. Hansen et. Al., 2010; Saint-Pierre et. Al., 2018; Schepman et. Al., 2015;). These research results show that it is not necessary for a medical professional to master as many different fields as possible. The strength of the case method lies precisely in the compilation and functioning of multidisciplinary working groups, and in the open, inquisitive attitude of the professionals participating in it. This open attitude is not only necessary for colleagues in the working group, but also for professional practice.

Various studies show that teachers become more professional and effective when they empathize with real-life practical situations and develop them, in collaboration with the professional field, into educational cases (Donche, 2005; Dufor et.al., 2010; Meijers et. al. 2010; Moekotte 2018). Teachers then investigate one or more of these situations, describe the background and context of the organisation, present the practical problem to students and then come together to explore potential solutions using practical knowledge within the organization. Introducing and teaching about real-life cases not only promotes working with the case method in education, but also the development of skills in both conducting practice-oriented research and in truly multidisciplinary thinking and working (Buckles, 1998; Razzouk & Johnson , 2013; Tripathy, 2009; Yadav et. Al., 2014).

## 5. Added value for professional practice

With multidisciplinary teams, companies can quickly and adequately respond to the economic and technological dynamics of the VUCA world and thereby try to increase their innovation capacity and gain strategic advantages over the competition (Boonstra, 2007). Multidisciplinary collaboration is not a fad but a necessity and requires other competencies of employees (Beekhuijzen, 2005; Gersdorf et al. 2017). They can no longer hide behind the boundaries of their own discipline, but must be able to work together with other disciplines to come to creative and innovative solutions (Cummings & Longo, 2017).

Graduates who have demonstrated in their training to be able to work (together) in this way and who have become familiar with the characteristics of VUCA cases can add value to these companies and contribute to strengthening organizations. A condition is that these organizations offer the students the opportunity to practice and that they are willing to submit the questions they are struggling with in the form of cases to the university college.

The analysis of the case and the search for answers to the questions is then carried out by students under the supervision of lecturer-researchers and in collaboration with the company or institution. The results found by students and teachers and the advice based on them can be tested and validated directly in practice. If higher professional education can contribute in this way to creating value for a company, the entrepreneur's willingness to continue to share issues and data with the study program and to give new assignments to the students will continue in the future.

An additional advantage is that organizations themselves can use the cases they have provided for education, and the results obtained from them, as material for training their own staff. This is at least a common practice in Germany. In this way, sustainable cooperation between educational institutions and companies can be created, thus promoting the economic and social development of the region. The results of this collaboration serve both the development of professional practice and that of education and research. In that sense, case-based education is a strategic tool that can be used, and in our opinion is that it should also be used to firmly connect the points of the triangle of education-research-practice.

## 6. Conclusion

Although the case study method has now become an integral part of the pedagogical toolbox of higher education (cf., for example, Yin 2018) and, above all, has gained in methodological clarity, in our view the possibilities of this approach in many ways have not been exhausted yet. As we want to show in this article, this lack is not only due to the very different levels with which this method is used in different countries and educational institutions. For us, a lack of application of the method is particularly evident in the fact that case studies are easily considered as universal and are therefore often applied to a large number of content that is actually context-based. Against this background, case studies no longer differ significantly from globally oriented textbooks which, in 'the world is flat' fashion (cf. Friedman 2007), take the view that global problems can be tackled with universal methods and answers.

We want to show that it is a fool's errant to believe that management practices can be applied uniformly across geographies and cultures (cf. Khanna 2014). This universal wisdom applies for the case study method as well and requires for a pedagogical and methodological setting sensitive to the context-based influence of specific decision environments. It is argued that this especially applies to Dutch students who may especially benefit from context based case studies. We will examine the potential added value a the case method that is sensitive to these specific issues for parties directly involved in higher professional education. It is outlined that blindly following the Harvard case method does not prevent us for this fool's path. Dutch students may feel lost realising realising that these cases are only marginally related to the business reality they have to cope with outside of university life. On the other hand, we will find that, due to misunderstood efficiency reasons, we must identify a lack of powerful context-based case studies. Although the study has been conducted in the Netherlands, through the collabration in ECASA(European Case Method Allainces) we are convinced that these problems also widely exist in Europe.

It is shown that this fact is stand in sharp contrast to the value added that is expected to be generated by case studies that do not only integrate all stake holders, i.e. researchers, teachers, students, and corporate an institutional partners, of a case study, in the process of developing a case. Rather it is shown that the value of a case study is especially sensitive to the level to which the specific environment is actively reflected in the entire process of case research, case writing, and case teaching.

A central objective of the research policy of universities of applied sciences and lectorates is to strengthen the quality of education through research (HBO Council, 2011; SKO, 2009). In this article, we started looking for a method to achieve this. We have argued that the case (study) method can have an important added value in this regard, both for students and teachers, and for companies and institutions. Working with real-life cases from the regional professional field and encouraging the integration of knowledge and skills promote the development of research skills and cooperation between disciplines and between the professional field and the educational institution. In the current and rapidly changing VUCA

world, this is not something without obligation but it is a necessary addition; without which, colleges, their graduates and the professional organizations cannot operate successfully.

For the sake of completeness, we also point out that this is not a plea for a radical educational reform. After all, the case method is a traditional, widely known and appreciated part of education, which means that the above-mentioned revaluation and refinement of the method can be implemented directly into the existing structure of a course.

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