

## **BUSINESS-UNIVERSITY COLLABORATION IN EDUCATION: AN EXAMPLE OF JOINT TEACHING IN ENTREPRENEURSHIP AND MANAGEMENT**

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**Purpose:** This paper aims to increase the knowledge about the cooperation between the universities and companies in education by presenting the forms of business-university collaboration in entrepreneurship education. Moreover, the article aims at formulating guidelines for universities and companies concerning the business-university collaboration in education.

**Design/methodology/approach:** The case study methodology was used to achieve the research aim.

**Findings:** The analysis indicates various forms of cooperation between business and universities in teaching entrepreneurship and management. Moreover, the results of the study show the possible directions of university-business collaboration in the future, both in the scientific and didactic fields.

**Practical implications:** The research results can be used by economic universities that want, together with enterprises, to teach management and entrepreneurship practically.

**Social implications:** The study's outcome may lead to an increase in the knowledge of future entrepreneurs and the development of students' skills desired by employers.

**Originality/value:** This paper is mainly addressed to universities and companies that want to cooperate in entrepreneurship education. It shows how companies can support university from their environment in teaching students.

**Keywords:** education, entrepreneurship, business-university collaboration, business-university cooperation.

**Category of the paper:** Case study.

## 1. Introduction

From the beginning of the 21st century, universities increasingly cooperate with companies. In many cases, their collaboration focuses on joint research and development projects to create new, innovative technologies or products (Healy et al., 2014). Some of these research efforts last for many years. Many of them fail. Nevertheless, some of them lead to groundbreaking inventions. Therefore, companies and universities' cooperation is highly appreciated, and it is perceived as a good source of innovation and disruptive technologies (Kuratko et al., 2019).

The cooperation of universities and companies is not limited to research on new or improved products and technologies (Healy et al., 2014). This cooperation also concerns other areas of socio-economic life, as more and more companies are interested not only in generating profits and satisfying the consumption needs of society. Many of them also want to show that they are beneficial for local communities (Davey et al., 2018; Porter, 2007; Steinerowski, and Steinerowska-Streb, 2012). As part of this type of activities, some companies cooperate with universities, supporting them in teaching students and preparing such curricula that meet the changing market requirements (Epure, 2017). Such business-university cooperation is precious because it enables students to develop skills desired by employers while studying at universities (European Commission, 2014; Healy et al., 2014; Orazbayeva et al., 2019).

Business-university collaboration in education has been underestimated for many years (Galán-Muros, and Plewa, 2016). Therefore, although the European Commission undertakes different activities to promote and develop cooperation between higher education and businesses, the collaboration between companies and universities in education is in Europe much less common than in the levels of R&D collaboration (Galán-Muros, and Plewa, 2016; Healy et al., 2014). Thus, business-university collaboration in education is still in Europe in the early development stage (Epure, 2017).

European reports on the cooperation between universities and companies in education show that there is a need to develop the activities supporting that cooperation. They also emphasize that the literature on business-university collaboration in education is fragmented and limited (Galán-Muros, and Plewa, 2016; Healy et al., 2014; Perkman et al., 2013). Such reports' findings indicate that it is necessary to spread knowledge about the cooperation practices between companies and universities in education. Therefore, this paper aims to increase the knowledge in this understudied field by presenting the successful business-university collaboration in education. In particular, the study shows the forms of cooperation between the University of Economics in Katowice and a company from the automotive sector in the practical field of study "Entrepreneurship and Finance". Moreover, this article aims at formulating guidelines for universities and companies concerning the business-university collaboration in education.

## **2. The need of business-university collaboration in teaching entrepreneurship**

Entrepreneurs create the future (Doo et al., 2021). Therefore, they should be as well prepared as possible for the role they are to play in society. They must be aware that they are expected to bring social and economic change and be agents of creative destruction who destroy old paradigms and initiate changes. They should also know that they should be pioneers in introducing new processes and products (Welsh et al., 2016).

To be agents of changes, entrepreneurs should be creative, innovative, and sensitive to the environment (Welsh et al., 2016). Moreover, they ought to think critically, take the initiative, solve problems and work collaboratively (European Commission, 2014). Thus, they should be able to connect things, ideas, people, and processes (Doo et al., 2021). These attitudes, skills and knowledge entrepreneurs should obtain during their education, in particular, while studying at universities specializing in teaching in entrepreneurship and management. However, entrepreneurs do not always acquire entrepreneurial competencies in high schools or Higher Education Institutions. In practice, in many countries, a lack of sufficient entrepreneurial education constitutes a significant barrier to entrepreneurship development (Elaine et al., 2013).

Entrepreneurship education is currently "in a state of transition" (Welsh et al., 2016, p. 126). It is on its way to transformation both at the conceptual and technological levels. Global, social, political, and technological changes that took place all over the world caused that new models of entrepreneurship education started to develop. During entrepreneurship classes, e-learning and mobile devices began to be used. Besides, a new teaching toolkit is introduced. At universities offering practical entrepreneurship education, both inside and outside Europe, the theory is generally combined with practice. Everywhere, activating forms of work with students are used. These are real-life examples, learning by doing, case studies, role-plays, simulations and interaction. Nevertheless, between particular universities offering entrepreneurship programs, there are some differences in teaching methods. Some universities organize study visits to companies. Others invite entrepreneurs for meetings during which they share their knowledge and experience with students. There are also universities where students gain practical expertise by opening real enterprises with funds specially allocated for this purpose (Steinerowska-Streb, and Głód, 2021).

Universities that offer students entrepreneurship programs increasingly try to establish links between practice and theory by cooperating with local companies. Sometimes they even launch regional alliances for entrepreneurship (Davey et al., 2018). Such initiatives are the most valuable for entrepreneurship students when they allow them to observe entrepreneurs' day-to-day duties. Therefore, to build students' entrepreneurial competencies through hands-on and real-life learning experiences, universities should actively involve the business sector in teaching entrepreneurship.

To foster the efficiency of the collaboration between universities and companies in education, universities should develop a toolkit for joint teaching entrepreneurship. In creating practical tools for such cooperation, they can be helped by knowledge about other universities' successes and failures in collaboration with the business sector. In this way, emerging types of university-business cooperation can be worldwide adapted.

### 3. Methods

The case study methodology was used to achieve the research aim. We chose that methodology, considering that the case study is one of the most widely used qualitative research methodologies in research on education in social sciences (Yazan, 2015). We adopted the definition of the case study by Merriam (1998). According to this definition qualitative case study is “an intensive, holistic description and analysis of a bounded phenomenon such as a program, an institution, a person, a process, or a social unit” (Yazan, 2015, p. 141). Merriam states that a case study characterizes three unique, idiosyncratic attributes: particularistic, descriptive, and heuristic. Particularistic means for her that the case study focuses on the particular situation, event, program, or phenomenon. Descriptive – that the case study provides a detailed description of the phenomenon under study. Finally, heuristic means for Merriam that case study helps the reader understand the phenomenon under study.

The case study presented in this article concerns the cooperation in management and entrepreneurship education between the University of Economics in Katowice and Tenneco Automotive – a company from the automotive industry. This cooperation is carried out in the practical field of study "Entrepreneurship and Finance". That field of the study is one of two practical fields of study in entrepreneurship existing in Poland. The University of Szczecin offers the second one.

Tenneco Automotive is an American multinational corporation. It is one of the leading manufacturers in the automotive industry. It deals with production of parts for car factories. The company has been operating in Rybnik since 1997. The company produces and distributes its products in Central, Eastern and Western Europe.

It supplies silencers for all types of passenger cars, both for the primary market (OE – Original Equipment, sales are made directly to car manufacturers) and for the secondary market (AM – Aftermarket, sales of spare parts to retailers and wholesalers). Tenneco Automotive Poland produces exhaust systems for many brands of passenger cars as well as for motorcycles. The company has been systematically implementing and improving lean management solutions.

The cooperation between the University of Economics in Katowice and Tenneco Automotive began in 2007. It was launched based on the informal collaboration between the representatives of Management Scientific Circle "Manager" and representatives of Tenneco company. There were two main initiators of that cooperation. The first one was the circle's supervisor – Grzegorz Głód, and the second was the company's representative – Grzegorz Pawlak.

The data for the case study started to be gathered in 2007 through participant observation. The observation period covered 14 years. During that time, the University of Economics in Katowice and Tenneco introduced different forms of cooperation. All of them are presented in the article.

The analysis of the data from the case study includes an evaluation of the cooperation between Tenneco and the Department of Entrepreneurship and Management Innovation from the University of Economics in Katowice. The results of the analysis indicate various forms that cooperation between business and universities can take in teaching entrepreneurship and management. Moreover, the findings show the possible directions of university-business collaboration, both in the scientific and didactic fields.

#### **4. Collaboration areas in entrepreneurship education between the University of Economics in Katowice and the automotive company**

In the initial phase of cooperation, in the years 2005-2006, due to the development of a practical didactic process, management methods applied in Tenneco Automotive were presented during the classes. Later, the Department of Entrepreneurship and Innovation Management representatives organized study visits with the participation of students to the Tenneco factory in Rybnik. These visits started to be cyclical meetings following a previously planned program. All of them covered selected aspects of implementation of lean management solutions, such as 5S and TPM. The visit consisted of three parts: a short introductory lecture, a visit to the production hall, and a concluding discussion. Since 2007, several cycles of such study visits have been realized.

Additionally, in the initial period of cooperation, the University and Tenneco representatives jointly organized a didactic contest, "Manager Challenge". That contest took place at the University of Economics in Katowice in the formula of a set of practical tasks solved by teams of students. In this regard, the company prepared sets of tasks in the area of production management and lean management.

Simultaneously with the didactic collaboration, there was scientific cooperation between the University and the company Tenneco Automotive. Attempts were also made for joint scientific publications in the area of lean management. One such publication was the article

*Ewolucja koncepcji Lean Management i jej zastosowanie w przedsiębiorstwach w Polsce*, published in the journal *Marketing i Rynek* by Kraśnicka, T., Głód, G., Pawlak, G. (2014).

The next stage of cooperation was the involvement of Tenneco representatives in the preparation and implementation of classes within the course of study with a practical profile "Entrepreneurship and Finance". The practical profile of education was an opportunity and a challenge for the University of Economics in Katowice. Due to formal requirements, making classes in this area practical is necessary and possible to achieve only through direct cooperation with representatives of business practice. The formal cooperation between University and Tenneco has taken place since 2014. Primarily, Tenneco supported the University in the area of modern management concepts and methods. Then, the company started to conduct workshops at the university, to continue the implementation of study visits and provide interesting teaching materials in case studies. In addition, Tenneco has offered to the students of "Finance and Entrepreneurship" the possibility of carrying out diploma theses based on the company's data. They can also prepare improvement projects in the field of, among others, the operation of production lines. Interesting work in this area was, for example, the diploma thesis of a student on balancing a new production line.

## **5. The benefits of university-business collaboration and the directions of its development the future**

The analysis of the cooperation between the University of Economics in Katowice and Tenneco Automotive indicates that university-business collaboration in teaching entrepreneurship and management can take various forms. All of them give students different possibilities to develop their knowledge and get them closer to the practice.

The main benefits of university-business collaboration include making the didactic process more practical, which is particularly important in the case of faculties with a practical profile, the possibility for students and academic teachers to familiarise themselves, the opportunity for students and academic teachers to learn about the latest trends, especially in the field of lean management, the possibility of the practical application of selected elements of modern management methods in practice, students searching for analogies of management methods implemented in the automotive industry in companies from other industries, implementation of joint projects to improve the functioning of management processes, gaining graduates as future valuable employees, creating a positive image of the company in the socio-economic environment.

There are also such benefits of university-business collaboration that one cannot point out directly. They are often intangible. These include an inspiration for students participating in this form of cooperation based on knowledge sharing, getting to know different ways of perceiving problem situations, and exchanging experiences, often of intergenerational nature.

Developing university-business collaboration requires conducting workshops at the university, continuing the study visits, and providing teaching materials in case studies. In future, the directions of cooperation development are primarily related to adjusting its form to the current needs of the university and the company. The implementation of remote cooperation is a big challenge. In this regard, it is possible to develop collaboration with Tenneco Automotive based on virtual tours and conduct more simulation games to introduce elements of competition between students. The potential for cooperation in this area is large and requires a creative approach in its use.

## 6. Conclusions

The education of future entrepreneurs has to link practice with theory (Ratten, and Jones, 2021). Therefore it requires close university-business collaboration. Summing up the considerations on the possibility of cooperation between the University of Economics in Katowice and a company from the automotive industry, we can positively assess the use of various forms of joint teaching in entrepreneurship and management. Based on the analysis of the cooperation carried out so far; we can point to the future development of its directions. At the scientific level, it seems possible to jointly implement scientific projects to obtain external funding. As regards the implementation of didactic projects, it is possible to conduct consulting projects in educational pathways (Głód, Raczyńska, 2018). These projects are carried out over four semesters and require systematic cooperation between the student, the academic supervisor, and the company's supervisor. To respond to the company's needs in this area, it is necessary to properly identify possible management areas, which are the subject of project work.

On the other hand, the necessity realizing of didactic classes in a remote manner, an interesting area of cooperation seems to be the participation of a company from the automotive industry in creating simulation games. Especially the area of lean management appears to be very interesting in this respect. In this way, the company representatives may become more involved in realizing didactic classes in the scope of whole modules of classes, not only frequent visits. This teaching method will make the teaching more practical and improve the quality of representation of the business environment in the teaching process. Further on, it is possible to realize scientific research in the field of students' entrepreneurial attitudes based on the implementation of new formulas of realization of practical classes in the

course of study. In the future, this may constitute an interesting area of research in entrepreneurship education at Polish universities.

Other universities may use the University of Economics in Katowice experience to create practical courses of study in cooperation with businesses. Collaboration between universities and representatives of business practice may begin from the implementation of individual projects tailored to the needs of the university in terms of the study program and the identified expectations of business partners.

Guidelines for universities and companies concerning the business-university collaboration in education include:

- identification of possible areas of cooperation that are beneficial for universities and business representatives,
- developing cooperation in the initial phase through pilot and possibly even informal activities,
- implementation of mechanisms for creating new projects in response to the current demand, for example, a new subject in the study program, the issue of diploma theses, the use of a new IT program,
- joint and systematic evaluation of implemented projects,
- promoting activities in this area to attract new business partners and students in the future.

In addition to the activities mentioned above, openness and the positive attitude of cooperation participants are essential to develop and maintain the links between universities and the business environment in an innovative manner.

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