



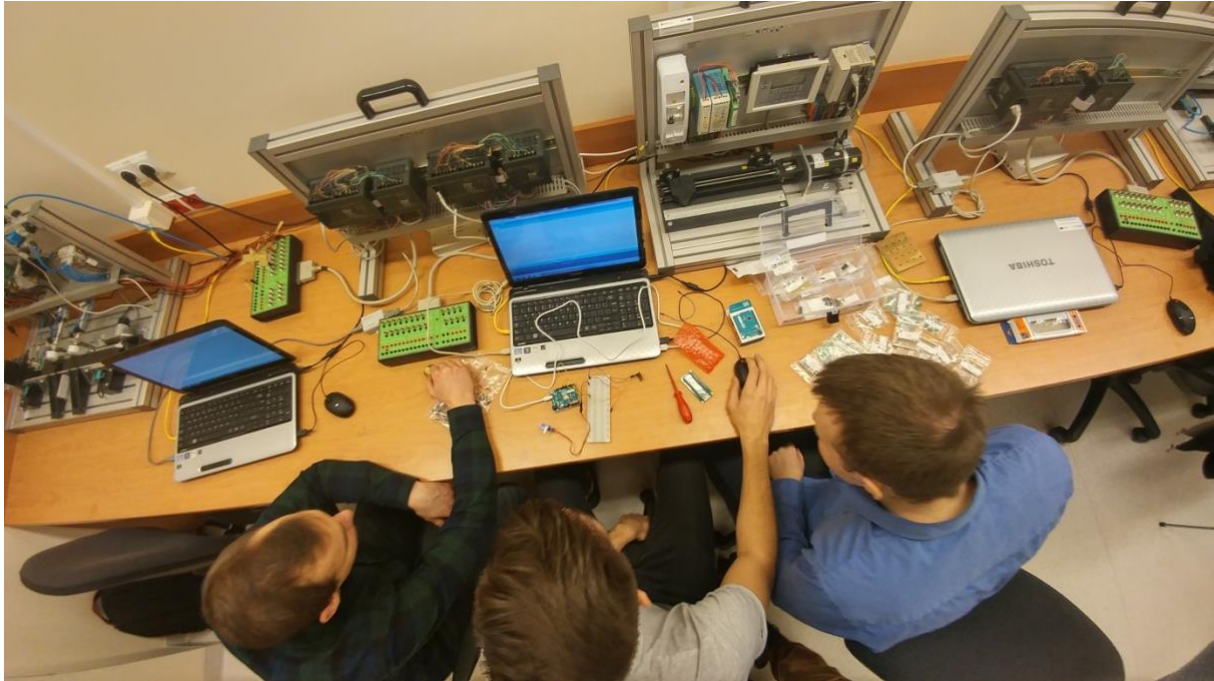
‘Entrepreneurial Teaching and Learning – a Case Study’

The State University of Applied Sciences
in Elblag¹

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Introduction

The 'Entrepreneurial Teaching and Learning' case study is about the co-operation between the University, business entities, state authorities and local self-government for developing learning activities that are aimed at developing an entrepreneurial mindset and skills. Co-operation can take the form of different partnership models, and can cover different fields, such as teaching methods, internships, research collaboration and applications of research results, projects supporting new enterprises and planning careers to informal student initiatives.



The State University of Applied Sciences in Elblag (PWSZ) was founded in 1998. Currently, approximately 2 500 students are enrolled in degree programmes in four institutes - Krzysztof Brzeski Applied Computer Science, the Polytechnic Institute, Economic and Pedagogical Studies, and the Linguistic Institute. In total, 196 lecturers are employed, of which 53 are titular professors, 71 employees with a Doctor degree and 72 are employees with Master's degree.

PWSZ, in addition to its teaching and research activities, has become a relevant location for start-up activities by staff and students. Also, the University acts as the "animator" for innovation activities in the region, involving students and researchers, but also for PWSZ employees that have the opportunity to evolve their own R&D projects.

PWSZ is continually adjusting its offer and strategy according to the regional labour market needs. An important element of this is the involvement of the University in the development strategy of the region and the city. PWSZ representatives participated in the teams who drafted the strategy for the region (voivodeship) and the city. A central actor within the University is the of Co-operation with the Social, Economic and Institutional Environment, which brings together the Academic Career Development Office, the Academic Centre of Consulting and Confirming Professional Competence, the Academic Entrepreneurship Incubator, and the Technology Transfer Centre. Also a relevant actor is the Elblag Council of Clusters, a representative body for about 150 enterprises generating over PLN 700 million (approximately EUR 160 million) in income and employ more than 2 500 people. The Elblag Technology Park (ETP), which was created in April 2011 with over 6 000 m² and is run by City Council.

In 2002, PWSZ initiated an action to transform communities towards ICT sectors. A fibre-optic municipal skeletal computer network was built, also in enhance co-operation with the local government and businesses. The local network was connected to the optical broadband network of learning PIONIER (Polish Optical Internet) and then the re-implementation of IT was conducted in the City Council and other public institutions. One of the major goal of the partners of this initiative was to engage young people in the fields of telecommunications and computerisation.

In years 2011–16, PWSZ achieved the "Leader University" certificate, which is granted for achieving the highest progress in the field of innovative education and supporting the practical education of students, as well as co-operation with socio-economic environment.

Innovative Features

- **Entrepreneurial teaching and learning**

The HEI provides diverse formal learning opportunities to develop entrepreneurial mindsets and skills

The State University of Applied Sciences in Elblag (PWSZ) created new courses and specialisations in response to labour market needs. The newest specialisations include for example: Social Media in Business, Monitoring and Environment Management, as well as Investigation and Protection of People and Possessions. Building the framework of individual educational paths, the University takes into account the need of stimulating and developing entrepreneurial mind-set and skills. For that purpose educational programmes were supplemented with at least one compulsory subject connected with entrepreneurial mindset and skills development, offered in every field of studies. For example, at Krzysztof Brzeski Applied Computer Science Institute the students acquire knowledge in the field of business management as part of the Computer Science course. The subject is project-oriented, while the students not only gain new abilities or knowledge, but also create social expertise by working in teams while using a variety of techniques, such as Agile, Prince 2 and ITIL.



One of the main characteristics of PWSZ is its orientation towards practical knowledge and skills obtained through 15-week long internships. So far the School has over 1 000 agreements of collaboration with businesses, including Alstom Power, OPEGiKA, and Lufthansa Systems.

Over the years, PWSZ has become the leader of the government's internship support programme for all higher education institutions in Poland. The result of intensive collaboration with businesses is a new model of internships with a greater focus on the development of social competences and transversal skills, such as communication skills, time management and priority setting, innovation teamwork, working under pressure, decision-making, responsibility for the results of work, ability to work in different workplaces, as well as technical and practical knowledge in the fields of engineering, administration, economics, and teaching.

The HEI provides diverse informal learning opportunities and experiences to stimulate the development of entrepreneurial mindsets and skills.

The authorities of the State University of Applied Sciences in Elblag (PWSZ) co-operate closely with the Student Council, of which representatives are members of the Academic Senate in Elblag and its various bodies, such as the Grant Committee, Disciplinary Committee and the Committee of the Quality of Education. Representative of the Students Council also co-operate with the Students' Parliament of the Republic of Poland.

The Student Council also deals with the organisation of student entertainment and sports events, i.e. opening of the academic year ceremonies, anniversaries parties, meetings of the film club, poetry evenings, Yearly Student Carnivals, and others. Students also participate in scientific conferences and debates. Students at PWSZ have various opportunities to develop their interests and passions in scientific circles (i.e. student clubs), sports sections and student organisations. Several agreements with leading IT companies (e.g. Microsoft, Cisco or Oracle) allow students to participate in technological competitions and to compete with other teams from around the world. An example is the "Imagine Cup" project, which brings together students and specialists in the field of new technologies and the business. PWSZ students have achieved over the years excellent results.

With a focus on the development of entrepreneurial mindsets and skills, encourages the development of entrepreneurial attitudes amongst its students. This is a function of the Centre of Improving Social Expertise, whose aim is to shape students' attitudes and interests, considering labor market needs. The Centre also creates development facilities for specialist classes for students to develop their interests in terms of artistic and research activities, including multi-institutional classes and projects. As a result, The State University of Applied Sciences in Elblag decided to make the following laboratories available for the Centre: robotics and mechatronics, edutainment, design and artistic activity.

Close relationships with the business world and research institutions also offer an opportunity for PWSZ to adapt its educational offer to current market needs. In activities, co-financed by the Erasmus+ Programme, PWSZ employees can further develop their teaching skills and learn about innovative teaching methods implemented elsewhere in Europe. This resulted in many new teaching formats at PWSZ, using for example games, simulations and e-learning.

PWSZ opened the Academic Entrepreneurship Incubator in 2005. It offers workshops and training, as well as a packet of services such as a lease of office space with the equipment, accounting and legal consulting services. Newly founded companies will receive basic services of the incubation, i.e. the access to 20 equipped offices, ICT support, assistance with promotion and training. By the end of 2015, the academic incubator had supported 40 student enterprises from a budget of around PLN 3 million (approximately EUR 700 000). The incubator organizes regular student competitions where the best business ideas are awarded funding and receive advice from experts. The "Startup house" is one of the current activities of the Academic Entrepreneurship Incubator. Part of the dormitory is adapted to needs of newly established firms as the place for living and running a business on campus.



The HEI validates entrepreneurial learning outcomes which drives the design and execution of the entrepreneurial curriculum

In order to keep the highest standard of education, the State University of Applied Sciences in Elblag (PWSZ) evaluates the education activities every semester. Students evaluate both course content and the lecturer in the last month of education of a particular semester. This is a chance for the students to express their opinions and come up with suggestions of what should be improved.

PWSZ has an internal system of assuring the quality of education. It covers all elements of the education process, which influence the scope and the quality of learning outcomes (actions) of students. The system includes:

- Assessments of specific courses and specialisations, post-graduate education and training activities
- Inspection and improvement of educational programmes
- Quality assessments of teaching staff
- Assessments of framework conditions for teaching, including organisation and conditions of conducting the classes
- Evaluation of educational outcomes
- Monitoring the professional careers of graduates
- Evaluation of adaptation of education activities to the needs of the region and its labour market

The internal system is part of the ISO 9001 quality management. Quality assurance procedures are specified in The Quality of The State University of Applied Sciences in Elblag Book. Programme Committees are operative in all institutes.

PWSZ's internship model assumes that internships lead to an increased ability to apply the knowledge gained in classes at work. Evaluation of internships involves also opinion polls of employers and internship partners about their needs in terms of students' expertise and abilities. Results are compared with the regular student surveys

at PWSZ. The Academic Career Development Office undertakes these polls in consultation with the Vice-rector for Organisation and the results are submitted to the University Committee for the Quality Assurance of Education before the end of October every year.

Another essential element in adjusting education programmes at PWSZ are alumni tracer activities. The further education activities by the Academic Career Development Office are important to maintain the contact with alumni.

Graduate employability is regularly monitored, and also well prepared through career consulting services to help students complete application forms, identifying job-search methods and suitable career paths, and identifying and addressing competence gaps. A current initiative is the “Career Reactor”, which aims to create mechanism for long-term career planning by offering activities such as career consulting, setting up a business, mentoring, networking, and career monitoring.



The HEI co-designs and delivers the curriculum with external stakeholders.

In order to provide the best education offer, the State University of Applied Sciences in Elblag (PWSZ) appointed a special committee (“the Convent”), an opinion-advisory body of the chancellor that involves representatives of local government, academic and professional associations, employer organisations, business people and financial institutions. The Convent’s role is to:

- Provide strategic advice on the University development and its education and research activities
- Suggest and implement initiatives to establish and deepen co-operation with businesses, state authorities and the local self-government in the areas of education, post-graduate education and research
- Implement initiatives to enhance skills development for students to help them begin professional careers

Many activities are underway at PWSZ to involve external stakeholders in the education activities. Research collaboration also plays a role. The Technology Transfer Center, created in 2005, has 18 expert and research teams, who connect PWSZ activities with external stakeholders, for example the team for automatics and robotics, environment monitoring or the team for computer-aided design. The University's magazines regularly publish about the work of these teams and several academic conferences ensure that networks are growing. Furthermore, employees are actively engaged in peer-to-peer support and PWSZ provides opportunities to share information about good practices in collaboration, internships, and programme collaboration with external partners.

Lessons Learned

- A key result of an entrepreneurial teaching and learning approach is the development of relationships with external partners and a greater connection with state institutions, businesses and business support providers.
- Research collaboration is an important part of relationship building and can result in a rich portfolio of teaching and learning activities.
- Activities that develop the entrepreneurial mindset and skills of students and staff have positive measurable effects, for example, the increasing number of applied projects that win in competitions or that receive public funding.
- It is important that innovative teaching methods are developed across the entire University and that support structures (e.g. training), incentives and rewards are put in place.

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