

# Dual System for Renewing Hungarian Higher Education

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*Abstract:* The Kecskemét College dual training model in higher education is a system during which the students complete half of their practical training within their studies at a given company.

Kecskemét College with the process of forming the studies into a dual system type wishes to facilitate the transfer of knowledge fitting to the needs of the market, moreover, fulfils the expectations from society, education and industry.

Up to now 40 partner companies take part in the training representing different industries, thus giving countless opportunities for our future engineers. Presently, 180 students are under contract with our partners.

The popularity of the training led to the standardization of dual training on a national level. We would like to give an insight to the social, economic and educational background and the process of this training.

During the process of standardization College and partner companies worked together.

The objectives of the training and its indicators play an important role in creating the strategic target map of dual training. The target map covers the most important practical knowledge required from industrial partners, the methods of ensuring labor supply of each region, and to provide flexible, professional higher education training.

Fitting the periods of practical training in the curriculum of our educational system also facilitated the cooperation between institution and industrial partners. The aim is to realize a 50% -50% academic educations and practical trainings every year through seven semesters.

Thus by the end of the students' studies companies gain well-qualified engineers, who are ready to respond to the demands of the labor market.

*Key-Words:* Higher education, dual training model, education and industry, cooperation, standardization

## 1 Introduction

The Kecskemét College dual training model in higher education is a system during which the students complete half of their practical training within their studies at a given company.

Kecskemét College with the process of forming the studies into a dual system type wishes to facilitate the transfer of knowledge fitting to the needs of the market, moreover, fulfils the expectations from society, education and industry [1].

In the system of Hungarian higher education the most typical types of cooperation between stakeholders and academic sector are mainly limited to research or wage work based on industry orders, eg. cooperation in the framework of carrying out measurements in the accredited laboratories of the academic sphere. Another frequent type of the cooperation is involving company experts in the college final exams. However, a type of close

cooperation which requires joint work, joint activities and developments on a daily basis is uncommon, despite the fact that there is a stronger and stronger demand for the transfer of knowledge between industry, and higher educational institutions. Furthermore, these institutions besides cooperation would need collaboration between the parties.

Competitive economy cannot afford the knowledge acquired during years spent in higher education not to be linked closely to labor market needs [2]. In the form of dual system in higher education collaboration is common as the parties are part of a joint process of expanding knowledge and experience. All parties face a similar problem i.e. students with appropriate qualification responding to the challenges of the economic environment. The dual system assumes a tight, result-oriented cooperation between the parties (companies and institutions) [3] [4].

## 2 Participants of the dual training in higher education and their motivations

The dual training in higher education has three participants. One is the higher educational institution, the second is company and the third is the student.

Those taking part in the training all have different motivations.

The institution in higher education wishes to build a strong and long-term relationship with the representatives of the economy and seeks to adapt the training to real life demands, wishes to educate motivated students and with the support of high training level achieve reputation.

One fact that determines the motivation of companies is the long-term investment in higher education institutions in the interest of receiving a steady workforce who were socialized on the demands of the company. The other motivation of the companies is to ensure the loyal professionals who were chosen and nurtured by the company for replacement.

Among the motivation of the students are the higher chances for getting a job after graduation, the possibilities of gaining more practical knowledge, moreover, ending the studies within a given time frame and the regular monthly payment they get during the course of training. (Fig.1.)

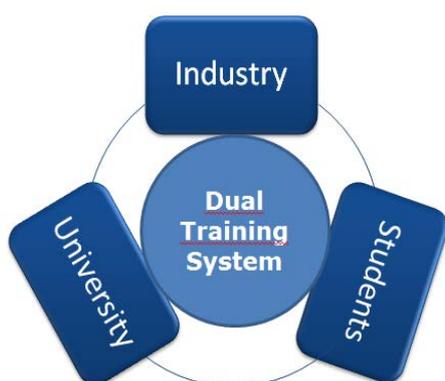


Fig.1. The participants of dual training in higher education

## 3 The principles of the training structure

In the course of realizing the joint training the institution provides the academic background and all the knowledge from books (methodology, proceedings, logical steps etc.) and ensures the thematic and regular accountability of the students. The company taking part in dual training gives the practical knowledge, the management processes, moreover, the requirements and opportunities of applied technologies and a work-related approach.

### 3.1 The strategic targets of the dual training system

- Practical knowledge inevitable for industry experts
- Ensuring labor supply in the region
- Career possibilities, supported learning process
- Cooperation between industry and institution with benefits
- Flexible, quality higher education training (Fig.2.)



Fig.2. The general target system of dual training in higher education

### 3.2 The main processes of dual training based on cooperation

#### 3.2.1 Expectations relating to the process:

The most important main processes between the institution and its partner companies are those jointly accomplished processes which aim at giving a solution to the dual higher education. In these processes all parties have to work together, and need to ensure all the conditions within the system.

Tasks carried out jointly help to achieve the following principles:

- reproduction,
- transparency,
- being systematic and
- being organized.

According to the PDCA (Plan-Do-Check-Act) cycles in higher education the structure of the main process is the following:

### 3.2.2 Preparation process:

Following a preliminary assessment of needs of the business partners, the most important step is to prepare the different courses or specializations for dual training. Training methodology and curriculum should be ensured by the institution.

### 3.2.3 Development and operation processes

Within tight cooperation several steps are conducted jointly with business partners. (Fig.3.)

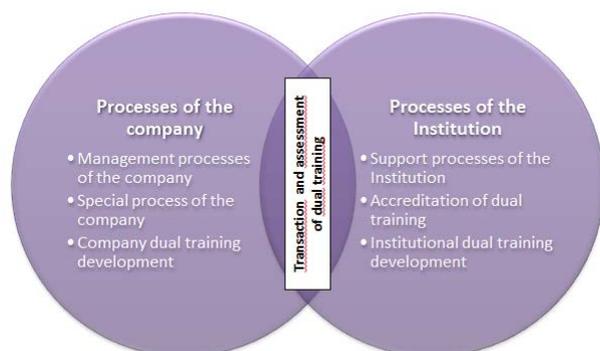


Fig.3. Processes of institution and company in the interest of cooperation

#### The most essential steps are the following

- Brand building, student campaigns (spring and autumn),
- recruitment,
- admission process (enrolment/student employment contract).

The main aim of brand building and student campaigns are to have the training widely well-known in order to influence the secondary school students' orientation. Marketing plans are made together with business partners as business partners join in the campaign in order to promote the learning, working and career opportunities at their company.

#### Preparation of the training

- Curriculum

- Harmonization of academic knowledge and practice

As a result of standardization business partners have to prepare an own plan concerning practical training which has to be harmonized with the curriculum of the institution. Furthermore, emphasis is on the so-called "Train the trainers" programme which aims at developing the thematic and methodology of the dual training with company experts and professors.

The business partner participating in practical training needs to include the following training plan within its organization:

- theoretical knowledge,
- different practical tasks to enlarge students' experience (specific "operational" practical tasks, independent project-based work),
- development of competences and skills (eg management skills, communication practices, project management, etc.).

#### Assessment

During the training students and business partners are assessed every six months in order to make the training more efficient and target-oriented. Students are assessed through questionnaires while companies are asked to fill in an assessment form concerning the training and to emphasize the strengths and weaknesses of the training. The indicators of contentment are of great importance since the results determine the further steps to be taken in improvement and development.

#### Employment of students

One of the most important elements of dual training is the immediate work opportunity at a given company. With practice-oriented dual training these graduates gain a huge advantage in labor market. Feedbacks show that students stay at the chosen company or wish to expand their academic and practical knowledge with further studies at a higher level.

By standardizing dual training business partners support different programmes among graduate dual students:

- Student mentoring (mentoring tasks performed by lower-grade dual students)
- Internship Program
- Alumni program

### 3.3 The performance metrics of dual training

The efficiency of dual training can only be truly defined if in order to measure performance, a system of indicators suitable for determining the degree of achieved objectives is being developed. The continuous control of the indicators shown below is necessary; however, all are starting points for the steps of intervention. Firstly, the indicators refer to the popularity of the training, secondly, to the cooperation with the partner companies, thirdly, to the contentment of the training. Lastly, indicators show the quality performance.

Popularity of the training	The number of trainings involved in dual training
	The number of students enrolled in training (per head)
Cooperation with partner companies	The number of partner companies in dual
	The contentment of the partner companies (%)
Contentment with the training	The aggregate value of contentment (%)
	The number of students dropping out (per head or %)
Quality education performance	Performance of dual students (%)
	The rate of graduated students and employed (%)

Based on the above the realization of basic targets concerning institutional and social expediency can be indicated.

Questions concerning realization are the following:

Can the following be realized?

- Increasing the emission of professionals according to local needs;
- The reinforcement of cooperation between institutions and industry (network of relationships);
- Contribution to the improvement of the labor supply in a region.

Are basic company targets realized?

- Do the number of graduates adapting new company demands increase?
- Do the number of those increase, who were socialized at a company and/or formed to the needs of a given company?
- In total is the employment of graduated colleagues “cheaper”?

In what ways are the basic targets of students realized?

- Can they expect a workplace for sure?
- Can a steady career model be formed?
- Is labor potential typically better?

The continuous controls of the contentment indicators contribute to the development of the training and shape the economic and social environment.

## 4 Conclusion

Fitting the periods of practical training in the curriculum of our educational system has also facilitated the cooperation between institution and industrial partners. The aim is to realize a 50% -50% academic education and practical trainings every year through seven semesters.

Thus by the end of the students' studies companies gain well-qualified engineers, who are ready to respond to the demands of the labor market.

Kecskemét College became a pioneer in introducing dual training in 2012 with 24 students and two automotive business partners (Mercedes-Benz Manufacturing Hungary Ltd and Knorr-Bremse Brake System Ltd). Up to now 40 partner companies take part in the training representing different industries, thus giving countless opportunities for our future engineers. Presently, 185 students are under contract with our partners.

The popularity of the training led to the standardization of dual training on a national level [5]. The legal framework was created by the National Higher Education Act which includes dual training as a form of training that higher education institutions can offer to applicants.

The standardization of dual system in higher education has started a new type of training system, however, the developed system should be continuously reviewed and improved.

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