A FUTURE BUILT ON TRADITION - MODERN PRINTING KNOWLEDGE AND TRAINING CENTRE IN BÉKÉSCSABA

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Abstract

The southeastern region of Hungary has a long tradition of printing. Békéscsaba has been considered a "printers' town" for a century and a half. There are more than a hundred printing and graphic design companies operating in the area, all of which require well-trained professionals. Printer's training has been taking place in the city since 1964. It was therefore not surprising that in 2018, Békéscsaba allocated a significant part of its financial framework for the "Modern Cities" government supported program to the creation of a knowledge and training centre that provides a supply of skilled workers for this industry, which is so important to the city, in a state-of-the-art technological environment and with educational methods that reflect the future.
The institution, which was implemented according to the original strategy and handed over in 2021, provides secondary education covering the entire spectrum of the printed communications business. The study presents and analyses the extremely successful, nationally recognized, future-focused training provided here from the perspective of students, teachers, and printing companies alike. They also strive to ensure the transfer of knowledge in the international arena for their students who excel in professional competitions.

Keywords: *printer's town, printing education, future-focused training, "Modern Cities" program*

1. INTRODUCTION

As the deputy director of the Albert Szent-Györgyi Technical School at the Békéscsaba Vocational Training Center, my responsibilities include overseeing printing industry training and the operations of the Printing Industry Knowledge and Training Centre. In this article, I present the educational and professional work carried out at our institution, while also sharing numerous thoughts and ideas that summarize the results and lessons learned from the printing training conducted here. This allows us to provide positive answers to many questions that may arise among those who are sceptical about our profession.

2. WHY BÉKÉSCSABA?

Békéscsaba is a small town of 60,000 people located 200 km southeast of Budapest, near the Romanian border. One might rightly wonder why such a centre of learning and training was established here, in this remote corner of the country. Békéscsaba is a true printing town. The region has a long tradition of printing, following in the footsteps of the renowned Kner and Tevan printing dynasties. There are more than 100 printing and graphic design companies operating in the city's catchment area, ranging from one-person businesses to multinational companies with hundreds of employees.

Figure 1: Where exactly is Békéscsaba?

In addition to production, education also has a long tradition. Secondary-level printing training has been available in Békéscsaba for 60 years, and it is known as one of the best training centres in the country in terms of enrolment, quality, and professional standards. Currently, 10 full-time instructors and 3 technicians strengthen the professional team, whose combined knowledge covers almost the entire spectrum of the printing industry, from preparation to finishing.
Anyone who works as a printer or operates a printing company in this city is tasked with and undertakes to preserve the heritage and build the future. In the 2010s, key players in the region recognized that the industry had no future without a skilled workforce, so they lobbied consciously and strongly for the promotion of training and the future of the industry. As a result, the training centre was established.
The implementation, operation, and future of young professionals have now become a common cause for the entire printing industry in the country. Although our partners are competitors in the market, they support education as one. For several years now, the Federation of Hungarian Printers and Papermakers treated secondary education and the training centre in Békéscsaba as a strategic issue and has supported them.

3. THE RESULT OF A SUCCESSFUL COLLABORATION

As a result of successful professional cooperation, the Printing Industry Knowledge and Training Centre was completed in the fall of 2020 with a budget of nearly €5 million as part of the Modern Cities Program of Hungarian Government.
The construction was preceded by several years of planning and preparation to ensure the best possible working conditions for printing students. The city of Békéscsaba also considers supporting printing industry training to be a priority.
Local printing experts and supplier partners also invested a great deal of energy in planning, and the facility is a true "love child" of the profession.

Figure 2: Printing Industry Knowledge and Training Centre

3.1. Technological infrastructure

The Knowledge Center is a well-equipped printing facility with five conventional and three digital printing presses for offset, flexo, electrophotographic, and inkjet printing.
Post-printing processing is made possible by a **cutting table**, die-cutting machine, **adhesive binding unit**, folding machine, collating equipment, stapling machine, and manual **bookbinding workshop**.
The design and technical preparation of publications is carried out on **55 iMac** computers in rooms equipped with **huge digital boards**.
We use Adobe and Alwan software for our professional work, which our partners supplement with special pro bono software (pre-press, CAD, Esko programs, and plug-ins).
Students can also prepare printing plates for offset and flexo printing in our own CTP studio.
In addition, a well-equipped colorimeter and materials science laboratory also help students acquire sound professional knowledge.

3.2 Education at the knowledge centre

The Knowledge Center operates as part of the Szent-Györgyi Technical College, thus serving the needs of secondary-level printing training.
In Hungary, printing industry training belongs to the **creative sector**.
It can be acquired at two professional levels.
"Printer" (level 4): over the course of three years, students learn the profession with very little general knowledge content and many hours of instruction; the final exam tests only professional knowledge, and students can start working immediately (typically at the assistant or machine operator level). They then could obtain a high school diploma in evening classes.
"Printing technician" (level 5): Over the course of 5 years, students take both a high school diploma exam and a professional qualification exam, after which they find employment or begin higher education.
Compared to level 4, the professional part is supplemented with knowledge related to process organization and management, production planning, and quality assurance, among other things.
Special training for certified technicians, in which students also take university courses in their final year. Students with good and excellent results are automatically admitted to the Óbuda University's Light industry engineer academic program, where their studies are credited with 32 credits.

Our school's main profile is full-time training following primary school, but we also start groups for students who have already graduated from another school or even already have a profession. They can study full-time until the age of 25, and there is no age limit for evening classes.
Students can complete their training at companies in their final year. In this case, the company and the students sign a vocational training contract. The student learns at the company as a quasi-employee, acquiring knowledge in an industrial environment through close cooperation between the school and the company. They receive a salary during their studies but are not "tied" to the company after the exam.

3.3 The process of vocational training

Students participate in basic vocational training at level 4 in the first year and at level 5 in the first two years.
During the basic sectoral training, students gain a comprehensive overview of the fundamentals of the printing industry.
During this period, we **lay the foundations** for further studies and find out which activities the students enjoy the most and in which they feel skilled and interested.
We design postcards, notebook covers, labels, and calendars by hand and on the computer, then print and process them to create "real" printed products.
During these activities, we learn about the programs used in the graphic design industry (Adobe Photoshop, Illustrator, InDesign), **familiarize ourselves** with how printing machines work, and **experience** how materials behave in practice. We **create** blocks, notebooks, books, and boxes with our own hands to experience the joy of a job well done.
For the basic exam, students create a two-page publication in InDesign and Photoshop, which must be digitally printed and presented in detail.
Starting this school year, the basic exam also includes the presentation of a portfolio of completed works.
This is followed by vocational training, where they will have more and more vocational classes over the years.
Technicians take their final exams and vocational qualification exams at the end of the 12th and 13th grades.
During the printing industry training, after the basic exam, students can continue in three professional fields:

- pre-press operator
- printing press operator
- finishing (post-press) operator

4. EDUCATION AND OUTPUT REQUIREMENTS

In the training and outcome requirements, a “sub-profession” can be defined as a distinct, independent component of the profession that enables the acquisition of the competencies necessary to perform at least one specific job role.

4.1 Education of pre-press operators

The pre-press operators **learn the rules of publication design** and use them to **design aesthetic and practical publications.** These can be flyers, books, newspapers, posters, boxes, bags, labels, decorative foil, flags—in short, anything that can be printed. They learn the rules of typography and graphic design, **become familiar with the technical capabilities of various printing techniques**, and prepare graphic designs in such a way that they can be implemented, printed, and processed on the given machine. To this end, they are in constant contact with the other participants in the printing process. If necessary, they can print the publication themselves on a digital printing press.

If the publication planned/prepared by the student is to be printed from a printing plate, the plate must also be prepared using the platemaking or cliché-making equipment available at the Knowledge Center. Our students who can work independently as pre-press operators are in high demand in the region.

4.2. Education of printing press operators

The printing press operators take the printing plate from the pre-press section and insert it into the printing press. They then make the necessary adjustments, insert the printing medium, and produce the first copy of the required quality. Their tasks are then to ensure that every single print is of the same quality.
In addition to printing from printing plates, students must also have a solid knowledge of digital printing techniques. Fortunately, in addition to offset and flexographic printing, the Knowledge Center also has laser and inkjet digital printing machines, so that well-rounded, well-prepared professionals can enter the job market. We supplement their knowledge with color management, materials science, and laboratory testing skills.

4.3. Education of finishing (post-press) operator

The sheets and rolls coming off the printing press are given their final form by the finishing operator. The Knowledge Center can only cover a few areas of the diverse world of print processing.
We have stapling, collating, and folding machines, as well as cutting machines, and our color digital printing press is also equipped with an in-line saddle stitching device.
The most exciting feature is the book-making equipment connected to the digital printing machine, which, once set up, performs the printing, gluing, and trimming operations without any intervention.
It is important that we can also provide our students with practical knowledge in label processing, as our flexographic printing machine is equipped with both upper and lower die cutting.
In the well-equipped manual bookbinding workshop, students can learn the basic techniques and complete the creative process. The workshop is equipped with a collator, stapler, folder, laminator, spiral binding machine, and manual bookbinding tools.

5. THE KNOWLEDGE CENTRE IS BOTH A PART OF AND A DRIVING FORCE FOR THE DOMESTIC PRINTING INDUSTRY

Thanks to its extensive network of contacts, the Knowledge Centre is an integral part of the domestic printing industry. The Federation of Hungarian Printers and Papermakers and the Technical Association of Paper and Printing Industry provide our teachers and instructors with free participation in professional conferences and various professional forums. They supported the participation of our two colleagues at DRUPA 2024. Our students can participate in professional exhibitions; we represented the next domestic generation with nearly 100 students at the recent PPD Expo. In addition, it conducts educational activities for elementary schools and actively supports our school enrolment events.
In addition to the Associations, several domestic companies support our activities with financial, professional, and in-kind support, provide us with up-to-date information, and help us cope with the daily challenges of our plant. In their honour, we have created a sponsor wall in the lobby of the Knowledge Centre.
Our partners visit us regularly and hold free training sessions for our students on the latest technologies. Most recently, representatives from Heidelberg visited us and gave a three-hour presentation on the multicolour system. We also regularly visit printing houses in several cities across the country, where students are warmly welcomed and everything is done to further increase their commitment to the profession.
In the first half of the school year, during the fall semester, our most active partners can get to know our students during a fun day. As part of the Andor Day competition, student groups solve fun professional tasks at stations set up by the companies. At the end of the day, the many small and large gifts that the

printing companies give to our students find their owners. For me, this event best symbolizes the spirit of the Knowledge Centre and printing education in Békéscsaba: establishing a living, personal relationship between students and companies as early as possible, so that after their exams, there is no question that they will begin their adult careers in the printing industry.
Networking continues in the spring, when companies come up with specific offers for vocational training contracts or employment during career orientation days. The greatest recognition of our work and also the best measure of its success is when our students find employment and/or continue their studies in the domestic printing industry, because this means that we have passed on our love of the profession to them and successfully shaped their vision for the future. However, the greatest joy is seeing our former students at professional conferences or in a work environment, as they often become our biggest supporters. It is a particular pleasure that some of our instructors were also Szent-Györgyi printing students (me included), and the technicians who perform the operational tasks are all enthusiastic young professionals who were "trained in-house."

5.1 Training consulting and cooperation

In addition to the printing industry, we are also closely linked to the domestic vocational training system. We perform expert, advisory, and examination tasks, liaise with state bodies responsible for vocational training, and participate in the development of training requirements and the examination system, thus acting not only as implementers but also as shapers of printing industry education.
One of our most important tasks is to maintain contact with other domestic training institutions, as the unique infrastructure in Békéscsaba must serve the interests of the entire domestic industry. To this end, we organize sector-specific professional days and consultations, provide the venue for the national professional study competition, and implement student exchange programs. We regularly assist each other with daily tasks or larger projects under the professional leadership of other institutions.
Together with Óbuda University, we have developed a certified technician program that ensures the most talented students' direct access to university engineering training.

5.2 Achievements of students

Our students regularly test their skills in various competitions. One of their favourite competitions is Best Print Hungary, which is essentially a competition for players in the Hungarian printing industry. Every year, companies compete with their best and most sophisticated products for the Best Print Hungary award, which requires them to meet strict criteria during the professional judging process. The competition has a junior category, where secondary and higher education institutions can also compete. Every year, we submit several entries, and the jury regularly awards our students' work with bronze, silver, or gold medals.
The largest and most important competition is the national professional study competition, better known as "Szakma Sztár" (Star of Profession). Following the interactive selection process, the preliminary and final rounds take place at the Knowledge Centre, where students and teachers from schools across the country come to showcase their knowledge. Every year, students from Békéscsaba finish on one (sometimes more) of the podium places, which we are very proud of. The highlight of the event is the "Szakma Sztár" Festival at Hungexpo Exhibition Centre, where 20,000 primary school students can learn about the opportunities offered by the printing industry, among other things, over the course of three days. The event requires a lot of preparation and investment from both the industry and the schools, but it is still considered the most eagerly awaited professional event of the spring. During the days spent here, our best students, together with the most enthusiastic sponsors, promote the profession at the stand, and by the end of the event, the boundaries between students and companies have been broken down. At the end of the competition, the best students receive significant financial support from the sponsors and are invited to job interviews at many companies.

To sum up, our most important mission, in addition to providing quality vocational education, is to lay the foundations for our students' professional commitment, launch their careers, and meet the needs of the labour market.

5.3 International relations

The Vocational Training Centre of Békéscsaba places great emphasis on building international relations and invests significant resources in this area. Although there are few partner companies in the printing industry, we managed to participate in an exchange program in Estonia as part of the Erasmus program. Within the framework of the Erasmus program, four students and two teachers took part in a professional trip to Tallinn, where we gained experiences that will last a lifetime. In addition to cultural programs, we also visited a printing plant and spoke with the president of the Estonian Printing Industry Association. Our students spent three weeks training at the Estonian printing plant.
In return, we also welcome Estonian students to the Knowledge Centre, where we strive to provide them with useful professional and practical experiences. Such opportunities are a great source of motivation for today's young people, and we hope to have the opportunity to participate in similar programs in the future.

6. CONCLUSION

Finally, allow me to share personal insight. In 1998, I had no idea what went on in a printing house; all I knew was that I wanted to work with books, computers, and people in my adult life. So, training as a publishing editor at the predecessor of today's Szent-Györgyi Technical College, the Tevan Andor Printing Industry Vocational School, seemed like a good choice. In the 27 years since then, I have earned degrees in light industry engineering, engineering education, and public education management. In the meantime, I worked at DTP Studio, then started teaching at Szent-Györgyi. Finally, in 2019, I got my dream job: to contribute to the creation of the Knowledge Centre, the development of the teaching team, the operation of the printing training program, and finally to join the domestic printing industry with this facility. This job is better than I ever imagined.

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