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The Role of Training Teachers in Improving the VET System in Hungary

Introduction

In Hungary, the role of vocational training institutions in the training of teachers is based on a history of several decades, even of centuries in some cases. Teacher training services have a broad range regarding subjects and locations that covers the whole country. The vocation-related training of vocational teachers started more or less at the same time as their university education, about 140 years ago, when this type of training represented the same educational level as the training of teachers for general education. In the past 25 years, it has become a more or less exclusive trend that engineers and economist with respective university degrees acquire their teaching degree (MA) in the framework of part time education. This paper discusses the characteristics of current development processes in addition to general features of the system and provides information on the research related to the training of vocational teachers at Budapest University of Technology and Economics (BME), the institution with the longest history in this field which also plays a role as a coordinator of teacher training.

Training of vocational teachers in Hungary

In Hungary, teachers teaching theoretical subjects in formal vocational education are requested to have an MA degree in teaching while those involved in practical training (vocational teachers in agriculture, engineering or business) need a BA degree in teaching. Vocational teachers (engineers of agriculture and economists who work as teachers, teachers of engineering subjects, vocational trainers) traditionally play an essential role in determining the efficiency of vocational training and as such, they demand continuously updated training contents and methods. The contents and methods of vocational training should be continuously adapted to technical, technological and economic changes.

Vocational teachers – both for theoretical and practical subjects – are only trained in the framework of higher education. At the level of central regulation (with the Ministry of Education traditionally playing a central role) the curricula and the forms and methods of evaluation for vocational teachers are developed by higher education institutions in accordance with the training and output criteria of particular faculties, which in turn are defined by the relevant decrees of the Ministry of Education. The courses and quality management systems of institutions are assessed by the Hungarian Accreditation Committee (MAB).

The types of teachers, trainers and other educational staff working in vocational education vary significantly according to fields of activity. In vocational formal education, teachers working in general and vocational education at basic and intermediate levels may be classified according to the places and subjects where and what they teach, at least until the transformation currently in progress (2015-2016) is finished. Accordingly, there are teachers of general subjects and theoretical and practical vocational subjects who control the professional practice in vocational education. As the implementation of dual education, a process promoted centrally, has accelerated significantly, we also have to note here the role of practical trainers, too, who manage practical trainings at work or in company training workshops. The criteria applying to them are defined by the Hungarian Chamber of Commerce.

The schools directly managed by the State are allowed to create jobs that facilitate education such as education assistant, child and youth protection manager, education supervisor, social worker specialized at family care, child and youth protection inspector, special education assistant, medical specialist (psychiatrist), planner of extracurricular activities, social worker, technical manager etc.

Those teaching general subjects and vocational theoretical or practical subjects are requested to have a tertiary (ISCED 5A) teaching/training degree. Teachers participating in practical training at commercial organizations are requested to have a degree in the given vocation (at least at the level for which they provide the training) and 5 years of professional experience.

The system of training vocational teachers

In Hungary, teachers are trained currently in 15 higher education institutions at various levels (at basic and master level). These institutions may be classified into separate groups according to general orientation (engineering, economics, agriculture) or the actual professions they cover. BME has a unique status among them, due to both its history and its renewed training profiles for vocational teachers.¹ The training range at BME covers almost every theoretical and practical direction for teachers of engineering and economy, facilitating the reception of trainees from an increasingly wide range of vocations nationwide. The profile of the majority of higher education institutions involved in training vocational teachers is defined by the specialization of the given institution (engineering, economics, agriculture) which in turn determines their range of vocational training services, too. *Table 1* provides details about higher education institutions involved in training vocational teachers and their vocational training profiles.

¹ The history of our department is closely related to that of the university in the past 100 years. The training of teachers specialized at engineering has been part of our activities for about 125 years, more or less continuously. Between 1870 and 1894, a teacher training institute was founded in the legal predecessor of BME, „József Politechnikum”. Between 1934 and 1948, the Institute of Education was founded and operated in the framework of the university „József Nádor Műszaki és Gazdaságtudományi Egyetem” specialized at engineering and economics. In 1961, the Department of Education was founded within BME, reorganized as the Department of Teacher Training and Education in 1971. In 1995, when the departments became independent within the institute, the Department of Technical Education (MPT) was established to train engineering teachers. Since 2005, the department has been operating as part of the Institute of Applied Education and Psychology.

Table 1

VET Teacher's Qualifications- VET Teacher Training Institutions		BCE	BGF	BME	ÓE	DE	DUF	EKF	ELTE/BGGYK	KE	LFZE	ME	MKE	MOME	NYF	NYME	PE	PTE	SZE	SZIE	SZTE
I. Technical Field	Engineer-teachers' specializations																				
	Material-Engineer						x					x									
	Bio-Engineer			x																	
	Wood-Engineer															x					
	Civil Engineer			x														x			
	Architect Engineer			x		x												x			
	Mechanical Engineer			x	x		x								x			x	x		
	Military and Safety Engineer																				
	Light Industry Engineer				x											x					
	Transport Engineer			x																x	
	Environment Engineer			x		x											x		x		
	Mechanical Engineer			x															x	x	
	IT Engineer			x	x		x												x	x	
	Technical Manager			x	x																
	Chemical Engineer			x																	
Electric Engineer			x	x																	
II. Economic Field	Economics Teacher MA specializations																				
	theoretical economics			x																	
	commerce and marketing	x	x	x												x					
	financial accounting			x																	
	entrepreneurship	x		x					x												
turism		x																			
III. Agricultural Field	Agricultural Engineer Teacher MA specializations																				
	Rancher Engineer									x											
	Rural Development Engineer	x																			
	Farming Engineer															x				x	
	Food Engineer	x																		x	
	Agricultural Practical Trainer																			x	
Wild Economy Engineer															x						
IV. Health Teacher																					
V. Special Pedagogy Teacher									x	x						x					x
VI. Pedagógus Teacher					x		x	x							x	x	x	x			
VII. Art Teacher					x						x		x	x				x			x

Source: OH Database 2006-2012

HE Institutions		
1.	BCE	Budapesti Corvinus Egyetem
2.	BGF	Budapesti Gazdasági Főiskola
3.	BME	Budapesti Műszaki és Gazdaságtudományi Egyetem
4.	ÓE	Óbudai Egyetem
5.	DE	Debreceni Egyetem
6.	DUF	Dunaújvárosi Főiskola
7.	EKF	Eszterházy Károly Főiskola
8.	ELTE/BGGYK	ELTE Bárczi Gusztáv Gyógypedagógiai Kar
9.	KE	Kaposvári Egyetem
10.	LFZE	Liszt Ferenc Zeneművészeti Egyetem
11.	ME	Miskolci Egyetem
12.	MKE	Magyar Képzőművészeti Egyetem
13.	MOME	Moholy Nagy Művészeti Egyetem
14.	NYF	Nyíregyházi Főiskola
15.	NYME	Nyugat-magyarországi Egyetem
16.	PE	Pannon Egyetem
17.	PTE	Pécsi Tudományegyetem
18.	SZE	Széchenyi István Egyetem
19.	SZIE	Szent István Egyetem
20.	SZTE	Szegedi Tudományegyetem

In the former dual system of higher education, vocational teaching degrees could be acquired after graduating from a given vocational institution or teaching and vocational courses could be completed in a parallel fashion. In the multi-cycle education system implemented in September 2006, vocational (engineering, agricultural, business) teaching degrees for teaching practical subjects could be acquired in the framework of 7-semester BSc courses which could also include external professional or educational apprenticeships. Teaching degrees for teaching general and vocational theoretical subjects could only be acquired in the framework of MSc courses, for those who already have a tertiary (ISCED 5A level) BA/BSc degree as defined by the training and output requirements of the given vocation. However, the Government in power since 2010 restored the former, standardized 5-year education for teachers of general subjects.²

The part time or distant education for vocational teachers is realized as follows – *Table 2*:

Credit	Semester1	Semester2	Semester3	Semester4	Semester5
1	Pedagógical-Psychological Training			School Practice	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11	Methodology				
12					
13					
14					
15					
16					
17					
18					
19					
20					
21	Training				
22					
23	by special field				Portfolio
24					
25	Optional Practice	Teacher			
26					
27	orientation	training			
28					
29	NAT-OKJ				
30					
31					
32					
33					
34					
35					

Table 2

For informative purposes, the system of full time education for teachers of general subjects is given below – *Table 3*..

² Vocational teachers may also be trained in a full time system; however, such trainings have not yet been realised due to the lack of interest.

Credit	Senester1	Senester2	Senester3	Senester4	Senester5	Senester6	Senester7	Senester8	Senester9	Senester10
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
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21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										

Table 3

The 150-credit teacher training programs are composed of 3 modules: vocational training focusing on the development of educational and methodology competences; education and psychology in theory and practice; and teaching apprenticeship in a public or adult education institution. Undergraduate teachers are evaluated by various means including exams, teaching practice assessments and the final practice assessment called the observed lesson.

Major directions in vocational development

The increased responsibility of the State in developing dual vocational education has become an important principle in renewing the vocational training system. Among the strategic priorities defining professional programs for the years to come, the development and implementation of the teacher career model is ranked among the first ones. Here, one of the most important elements is modernizing the training of teachers.

In this process, the training of teachers is interpreted in a much broader sense than traditionally and becomes a complex system of career phases preceding and following training:

- **Orientation phase.** This phase is characterized by the professional and social communication prior to the training of teachers that describes the contents and structural features of teacher training, the most important phases of training and the income of and career options for teachers. Although this phase, with special regard to the communication about policies, is a central task, teacher training institutions have an essential role in harmonizing training quotas and capacities, providing accurate information for candidates and attracting students.

- ***Training phase.*** The relative seclusion of this phase, one traditionally associated with higher education, is disappearing. If it is not connected to the orientation phase or the link is weak (resulting in a lack of professional interest and motivation for training), there might be no demand for training at all. The intention of training institutions to join complex teacher training programs and the efficiency of such co-operations in particular will become dubious. While relying on modern contents and state of the art training and output requirements is important in this phase, the most critical elements are the sustainability of the teacher training system and a stable demand for particular training programs.
- ***Education apprenticeships in schools.*** The significance of this phase (a practical training in a public education/adult education institution in a more complex interpretation) is determined by professional policies and the relevant legislation. It is the task of higher education institutions among others to prepare teachers-to-be for this special socialization period related to the actual workplace. However, the sites for professional activities are basically the schools. Graduated students will not be students any more but employees (teachers) and schools will provide them with a professional habitat and an institutional structure for a long period.

We have to emphasize the strategic significance of the *orientation phase* and the related professional tasks as it takes years to change social and institutional practical habits formed over decades. We talk about nothing less than increasing the social and professional prestige of training teachers. In this process, institutions training teachers basically act as partners in changing things while obviously they also have to fight their own battles regarding their internal issues. However, it is a complex system of tasks where professional initiatives and social communication are typically managed centrally.

Some typical characteristics of the development of training:

- As a result of shifting ratios in the duration of teacher training, the significance of 1-year trainings has been increasing recently.
- The Act on Public Education assigns special priority to the education of children with special needs and the related institutional and human resource requirements. The relevant specific training criteria should be prioritized in the training of vocational teachers as well.

We may consider the compliance of new *training and output criteria* with the competence standard of the teacher career model as a general professional requirement.

The new Act on Higher Education introduces again the former undivided system for the training of teachers in a 4+1 or 5+1-year structure. The quality of education is essentially determined by the teachers involved. Their career options, including the system of social and financial rewarding, should be made predictable and plannable.

In Hungary, the duties of teachers are defined at the highest level of legislation. Accordingly, one of the duties of teachers is to guarantee the development of the personality and talents of children by means of education activities and to do everything reasonably expectable to comply with this task, while always being respectful of the individual capabilities, skills, development rates and social and cultural status of children. A priority task of teachers is to care for children with special needs at an individual basis.

Teachers have the right as members of the teaching staff to participate in the development and approval of the educational program and institutional documents of the educational institution, to select the knowledge elements to transfer, the curriculum, the educational methods, the books and other education material in accordance with the educational program and to control and evaluate the activities and performance of pupils and students. Teachers have the right to take supported sabbaticals at a defined frequency and to represent or participate in the work of the Chamber of Teachers or other professional associations related to public education.

Since 2012, the benefits for teachers are defined by the Act on Teachers' Career Model. Benefits related to visiting museums and libraries as well as reduced fares will be extended as the central budget allows. Accordingly, new teaching roles emerged, also in formal vocational education. An example of such roles is the *Mentor* who helps the work and integration of beginning teachers. Mentors are requested to have relevant qualification exams and a Master Teacher qualification. *Experts* should perform the tasks of professional supervision and prepare expert reports according to the stipulations in their contracts. Only Level 3 Teachers (Master Teachers) with the relevant qualification exams may act as experts; they are requested to be working in a public education institution or retired from such an organization not longer than 10 years before. *Consultants* help and evaluate the work of teachers from a professional aspect (with regard to subject or special field of education) and organize consultations, vocational trainings and professional workshops. They participate in the evaluation and grading of the qualification exams of teachers. Consultants visit the classes of teachers working in their respective districts and specialized at the same subject as them at least once in every five years. They provide extra assistance when asked by the principle. Only Level 2 Teachers may take the position of *Chairman of the Exam Committee* at graduation exams in secondary schools who received the relevant training. *Teacher Trainers* perform special tasks in institutions where students have their teaching apprenticeships. While also acting as teachers of the given subject, they control the work of teacher candidates, act as mentors and supervise practical teaching by candidates. Contracted as experts or consultants they contribute to every task related to public education. Only Master Teachers may be Teacher Trainers.

Developments in didactics

In Hungarian vocational education, vocational teachers may teach both in formal and non-formal education, so they should be prepared to meet the needs of educating young adults, adults and students with special needs, in addition to the 14-18-year old age group. A common base for the criteria applying on the training of vocational teachers is to prepare them for vocational teaching activities both in formal and non-formal education systems, in addition to training them to meet the training objectives and acquiring the National Qualifications Register (OKJ) degree.

Matching the peculiarities of Hungarian vocational education, at BME we develop methodology trainings for complex school subjects to develop the educational competences needed for designing and applying complex curriculum units in the training of vocational teachers and at practical trainings. The basic idea was to provide a base for a new, medium-term research and development project that will aim at applying the developed methods and procedures in practice, designing and applying new e-learning curricula and controlling performance.

In Hungary, 73.8% of students at ISCED3 participate in general, non-vocational education and 26.2% in vocational education (2012, source: CEDEFOP). European countries

significantly differ in this respect. In developed countries such as Austria, Belgium or the Netherlands, the proportion of students in vocational training is much higher, around 70%, while in France and Germany the ratio is closer to 50-50% in both general and vocational education.

In developing vocational training concepts, a personalized approach is generally applied. Vocational training has a unique position in progressive educational systems, mostly as the duration of trainings is much shorter than in non-vocational programs. This uniqueness is manifested in the way vocational programs prepare students for the social division of labour in the broadest sense. In this dynamic process, currently existing progressive elements (e.g. the penetration of IT solutions and the general application of bio-technique) and potential new developments with a high probability (e.g. changes in the energy structure) serve as mechanisms to create a modern vocational structure.

Interdisciplinary approaches are increasingly acknowledged; however, we should note here that accelerating technical development results in the continuous restructuring of technical culture and educational contents. These traditionally focus on information, so a strong competition may be foreseen between traditional curricula focusing on quantity and new ones representing a more complex approach. This contradiction may only be resolved by educational institutions if they are willing to modernize their knowledge transfer system that is traditionally rigid and divided into subjects and to create the didactics for the new, integrated approach.

An important direction in international educational content and didactics development is the creation of open curricula where those actively participating in learning contribute to the development process constructively. Another characteristic is mass access to contents, supported by efficient modern online surfaces. Currently, this approach is most innovatively applied in higher education (MOOC); however, the high number of students in vocational education as well as their increasing age and dividedness regarding various professions urge the methodological adaptation of these solutions.

Focus of research at BME

Research activities at BME's Department of Technical Education essentially focus on the differentiated management of the in-class activities of vocational teachers and the application of efficient educational methods and procedures. From the aspect of research, the general criteria of training teachers are partly conventional, related to knowledge, skills and attitudes and partly related to the following teaching competences:

- developing the personality of students, personalized programs;
- supporting and developing student groups and communities;
- vocational training didactics and vocational knowledge;
- planning the educational process;
- supporting, organizing and controlling learning;
- evaluating educational processes and students;
- communication, professional cooperation and career identity;

- commitment and responsibility for professional development

From these, our work focuses on the development of vocational training didactics and vocational knowledge and supporting, organizing and controlling learning. The aim of training vocational teachers is to prepare participants to teach vocational subjects „at the stages of formal education that prepare for a vocational degree in teaching, in formal and non-formal vocational training at basic and intermediate level, in the vocational training and retraining of adults and in National Qualifications Register (OKJ) vocational trainings”.

The orientation framework of development is the *network concept*, a typical feature of vocational training and now also penetrating the training of teachers. This project encouraged teacher training institutions to „learn” in an environment where information exchange organized into an informal network an supported by IT devices has an increasingly important role. The point of the concept is participation in the network and access to information as well as to the software packages that are able to interpret information in various contexts, promoting cooperating and self-organized learning. Accordingly, a priority objective of Hungarian projects is to develop new networks for the institutions and partners involved in the training of teachers, creating new nodes (knowledge elements) and edges (functional links). According to this approach, the focus should be shifted to the „network” of individuals and learning.

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