

Organizational Conditions of Personnel Quality Assurance in German System of Dual Training

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Abstract: Using the materials of scientific researches from Foreign and domestic researchers dedicated to the study of vocational training system in Germany, normative documents regulating the educational process in Germany, we attempted to identify the organizational terms providing the quality of the workforce in the German system of dual training. During the analysis, the main elements of the dual training system were determined and described. These elements shall be introduced at the organization of personnel training model at a workplace. There are the requirements that are applied to industrial enterprises, instructors of industrial training, vocational schools, the teachers of vocational theoretical disciplines at the establishment of qualified personnel training in the dual system. The dual system structure and the procedure of examination performance are considered after the study completion. The conclusion is made about the worker training quality dependence on a variety of factors. These factors include the provision of student practical training by vocational training instructors with the appropriate qualifications and pedagogical skills, the equipment of workplaces and the proper organization of training.

Key words: Dual system, elements of dual training system, enterprise, vocational school, teachers, students

INTRODUCTION

The rapid development of industrial production through the introduction of absolutely innovative technologies completely changes the nature and content of a worker's labor, imposes higher requirements for his educational and vocational training. In such circumstances, the system of Secondary Vocational Education (SVE) should clearly respond to the changes in the content and nature of professional staff skills and develop according to the pace of a country economic growth. But today, as experts note, the gap between the needs of industry in labor force, its actual availability and the conformity of their qualification to the production requirements of the production makes 30-70% depending on industry (Anonymous, 2012). Under such conditions, many employers hiring workers are forced to complete

their education or even retrain them in accordance with an enterprise profile. In order to solve this problem at a state level, a strategy of personnel training system is developed up to 2020. The activities under this strategy are aimed on the development of a particular model in respect of qualified personnel training at a work place a so called dual system. This system is prevalent in many countries but it appeared and developed in the German system of vocational education. In this regard, there is an objective need for the study of organizational conditions ensuring the training quality in the German system of dual training.

MATERIALS AND METHODS

Main part: Let's analyze the main elements of a dual system and give their characteristics (Table 1).

Table 1: Basic element and its features

Basic elements	Features
Common objective: vocational education as a means economic, social and personal goals achievement	Three goals are stated in the context of interested parties (government, business, students and their parents): Cost-effectiveness; Social integration; Personal development It is the means of personal and family provision for a student, the ensuring of competitiveness for the education system, the quality work of employees for an employer, which influences on the success of an enterprise, the quality labor of an employees for a state, which influences on the success of an enterprise, which, in its turn, determines the economic development of a country The training program is designed to meet the labor market needs. The skills allow you to perform different tasks within the chosen specialization that allows people to seek employment at the companies with different profiles. The profile of skills makes trained workers more mobile. A responsible body (usually the Chamber of Commerce) organizes a centralized examination to assess the student skills. At that an instructor and a teacher are different persons
The main purpose of training is the preparation of qualified personnel, able to learn quickly and adapt to the changes in their professional field	

Table 1: Continue

Basic elements	Features
The principle of “duality”	The principle of “duality” refers to the integration of theory and practice, the integration of thought and action. Business environment is very important to study, as it is the only place where learning is possible in actual industrial conditions. The principle of “duality” enables the development of professional skills in accordance with the needs of labor market and not just an individual enterprise
Vocational training as a general problem of a state and business	The close cooperation between government and business (for example, in professional profile development, examination, searching of a place to study). Cooperation may take various forms: from formal cooperation to the “consensus principle” observation or informal arrangements. The interested parties become active participants involved in the implementation of the basic agreements that contributes to the promotion of vocational education
Mutual financing of vocational training	The costs of training are distributed proportionally between a state and a business community. The participation of a business community in vocational education financing allows to provide a relatively low level of state costs in this sector. The provision of staff professional training by an enterprise lead to its net profit increase as the vocational training programs serve as the investments in human resource strategy development of an enterprise
Qualification of teaching staff	The mentors of industrial training and the teachers of vocational schools are divided at least into four subgroups, depending on the role they play in vocational training. The mentors of vocational training at an enterprise, the managers of industrial practice, professional school teachers who teach the theory of specialization, the teachers of special and general subjects and the teachers of vocational schools involved in the special practical training at school educational workshops (industrial training masters). All of the categories of students should be qualified
The balance between standardization and flexibility	At the development of educational standards their flexibility is provided to ensure their applicability to the enterprises from various industries
The creation of a solid foundation for decision-making and system development	The Federal Institute for Vocational Education is engaged in continuous improvement of the system (the training and support of centralized changes using a specialized research, planning and statistical tools as well as vocational training tracking methods)

Starting to the analysis of organizational conditions ensuring the quality of staff training in a dual system, it is necessary to clarify what is meant by this dual educational and work environment. The dual system is the model of qualified personnel training, at which the industrial training at an enterprise is a key element. A theoretical training in a vocational school fulfills an accompanying function. This model allows to consider all innovative technological changes of a worker in time and to implement them in the preparation process.

Since, an enterprise is the main place of professional training it is necessary to consider the requirements that apply to it:

- A company planning to organize staff training must have premises and equipment that allow to train under a standard timetable. Production processes should be capable of training at an enterprise
- The number of places for training should match the number of students. At that the places for teaching may be the following ones:
 - The workplaces where students may study within the conditions closest to the actual ones
 - Student places that are located in close proximity to the workplace
 - Student workshops (Toropov, 2005; Shilina, 2009)

- The number of students must be proportionate to the number of specialists. In accordance with the recommendation of the Federal Institute for Vocational Training on the admission of a training enterprise, the following quantitative ratios are proportional ones:

- 1-2 specialists-1 student
- 3-5 specialists-2 students
- 6-8 specialists-3 students

One additional student for each 3 subsequent specialists:

- In accordance with the recommendation of the Federal Institute for Vocational Training the following load is adopted per 1 tutor:
 - A mentor, dealing with the training as a second job, should teach no >3 students
 - A mentor, dealing with education as a primary activity, should not teach >16 students (Muller and Barbara, 1982)

The law on vocational education states that the work as a vocational training mentor shall be performed by professionals with a relevant expertise. A St. that we differentiate between personal, special and vocational educational qualification of a mentor at an industrial enterprise. Personal skills involve personal teacher traits, that is, responsibility, tolerance, punctuality, creativity as

well as the absence of previous convictions and the observance of laws that are directly related to education.

A special qualification on the basis of the law on vocational education, implies the existence of professional skills for a specific teaching profession. A mentor with a necessary professional and life experience in profession, who is at least 24 years old and who passed the final exam in the specialty according to his educational profession.

The special skills of an industrial training mentor should be supplemented by vocational and educational qualifications which allows to cope with the functions of management and performance during the training process. The management functions of an industrial training mentor include:

- The determination of learning objectives
- The preparation of a production plan to train officially recognized professions
- Coordination between different learning environments: an in-plant, an inter-industrial and a professional school
- Planning of financial expenses for professional training
- Planning the number of educational professions, according to which the professional training is provided
- The number of pupils planning
- Coordination of the learning process and control the results

The executing functions of production mentor training include:

- The monitoring of pupil operation results
- The development and improvement of the educational process
- The preparation of students for intermediate and final examinations
- The work in exam commissions during examinations
- Facilitation of industrial retraining and advanced training

RESULTS AND DISCUSSION

Vocational training in enterprises is carried out only under the abovementioned requirements. The monitoring of compliance with the abovementioned requirements is performed by competent authorities (Trade, industry and crafts chambers) (Reichenbach, 2001).

A professional school as a state institution is controlled by the local education authorities. The following main objectives shall be performed by such a school:

- To continue general education
- To perform the functions of upbringing
- To give additional “education for profession”
- To give “Education through a profession”

The teachers of specialization theory are occupied with theoretical training, the teachers of special and general education courses as well as the masters of industrial training, dealing with a special practical training in school educational workshops. In contrast to the teachers of vocational training at an enterprise for the teachers of vocational schools, the function of the basic theoretical knowledge transfer is the main in their profession profession. Currently, the teachers from vocational schools have to master the system of theoretical knowledge and the ability to update the knowledge from different areas, to give a theoretical preparation for pupils and develop the ability of interdisciplinary relations establishment (Donetskaya and Shcherbakov, 2002).

In order to understand the action mechanism among all participants of the educational process in the framework of the dual system, let's consider the process of a student training from a contract conclusion to the industrial education to obtain a professional education certificate.

In order to perform a structured and a targeted professional training a mentor shall prepare a production curriculum that contains the following sections:

- Knowledge and skills, that a student shall master
- The structure and terms of probation period
- The main sections of vocational training
- The examination requirements
- The events outside an enterprise

A production curriculum is transferred to a student together with the agreement on an industrial training and forwarded to the relevant competent authorities.

The preparation within the dual system is based on the combination of theory and practice (70% of practice and 30% of theory) and has the following structure.

Stage 1: The year of initial professional training. The theoretical information about the basics of a professional direction is provided.

Stage 2: Students are introduced with the theoretical and practical bases of related professions group.

Stage 3: Graduate education is performed, which is ended by an exam (Fedotova, 2001, 2002).

There are two variants of examination in the process of industrial training.

Variant 1: An intermediate exam: to identify the level of knowledge (usually in the middle of a study period):

- Final exam: final inspection and assessment of professional knowledge and skills

Variant 2: The final examination, part 1: influences on the results of the final examination second part in a percentage form (from 30-40%).

The final examination, part 2: at the end of vocational training. Each of the above presented examinations is held in the form of:

- Knowledge test (theoretical exam)
- Skill check (practical exam)

The examination committee consists of at least three people. It should include the representatives of employers and vocational school teachers.

Summary: The analysis shows that the staff training model organization at a workplace is a very promising one and quite realizable. The introduction of this model in the SPO system will enable enterprises to control the process of training, taking into account their interests and will improve the quality of the educational process. To implement the model of staff training at a workplace in our country it is necessary to ensure the following:

- The development of new educational programs with a training part increase at a workplace
- The development of multi-channel financing forms for educational process
- The creation of conditions for the staff training at a workplace
- The creation of a mentoring body consisting of qualified professionals, providing the training at a workplace
- The implementation of independent evaluation in respect of student quality

CONCLUSION

Thus, the dual system developing each year allows to prepare such personnel that meet not only the current

state of production but also the prospects of its development. The main indicators ensuring the quality of vocational training in the dual system are:

- The consistency between the actions of all partners of vocational education
- The study during the working process
- A qualified teaching staff

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