

Working competencies as a factor of building working groups in mining enterprises

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Abstract. Building working groups is the basis for efficient operation of modern organizations. Mining companies are increasingly introducing project management or building working groups that carry out specific tasks in production and processing of coal. The competences of their members are crucial for the success of these activities. The author proposes in her publication her own method of selecting employees for groups using competence profiles. The proposed method can be successfully used both for universal and professional competences. The publication was summed up with a summary and conclusions from the research.

1. Introduction

Competences vs. skills

Defining the term 'competences' raises many problems. We often identify them with other concepts such as "skills", "abilities" or "qualifications".

To perform entrusted tasks, we use both "skills and knowledge" acquired in the learning process [1]. On the other hand, our "abilities" affect the improvement of skills. How to define qualifications? The concept of qualifications is usually linked with the professionalism of a man, with a learned or performed profession - "it is a resource of knowledge, skills to perform a profession or take a position" [2] (figure 1).

Sometimes in the literature different definitions of competencies depending on the American and English perspective can be met [3]. In American literature, the term *competency* is used, and in the United Kingdom the term *competence* was created.

Competency refers to 'soft' competences. C. Woodruff [4] states that "competence in the sense of *competency* is a notion about people, referring to those dimensions of behavior that underlie competent action." On the other hand, *competence* is "a job-related concept referring to those areas of work in which a given person is competent" [4]. The competences in the latter approach refer to the individual's skills that he must have in order to effectively perform his tasks (figure 2). in order to effectively perform his tasks (figure 2).



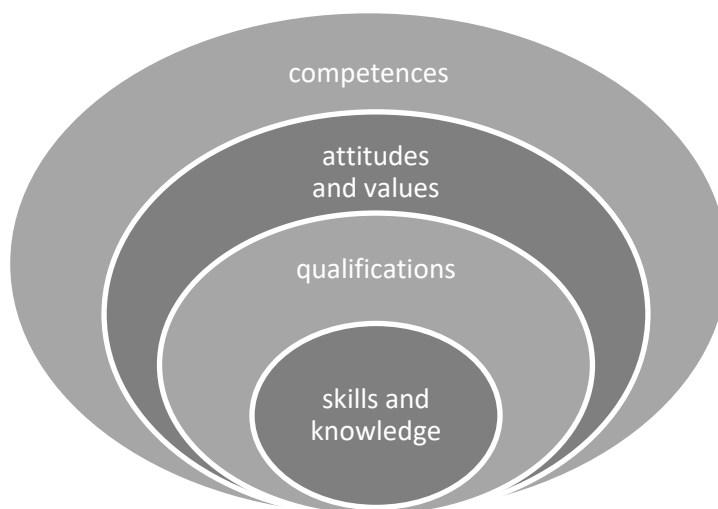


Figure 1. Structure of holistic competence model [5].



Figure 2. Difference between competence and competency. Own study acc. to [6].

A look at competences in functional terms is a good representation of the pyramid of competence according to G.E. Miller [7] (figure 3). According to the author, the most friendly definition is that of G. Filipowicz [8], which specifies that "competences are dispositions in the area of knowledge, skills and attitudes, allowing to carry out professional tasks at an appropriate level".

She (similarly to other researchers) divided competences into two groups:

- basic,
- executive.

However, in relation to team work, a different division of competences should be distinguished. In addition to substantive competences necessary for the implementation of tasks, teamwork competences are needed (figure 4).

According to M. Armstrong [9], in the research conducted by L. Müller, N. Raankin, F. Neathey, the most important competences according to employers are (according to the degree of occurrence):

- teamwork orientation (78%),
- communication (65%),
- focus on the customer (65%),
- human resources management (58%).

In order to better adapt enterprises to teamwork using the competences of human resources, a tool in the form of a competency profile of both the employee and the team can be used.

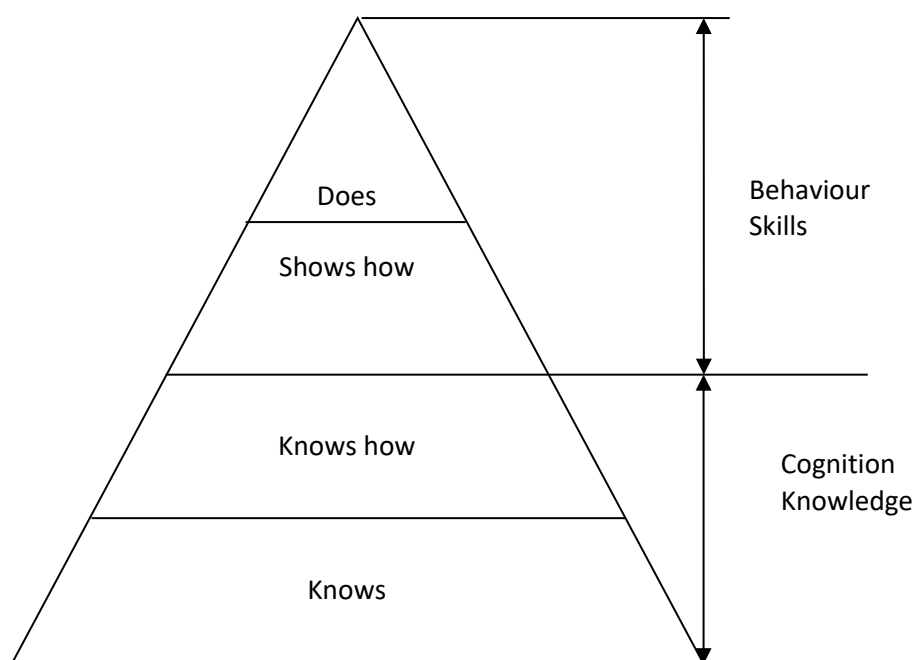


Figure 3. Pyramid of competences according to G.E. Miller [7].

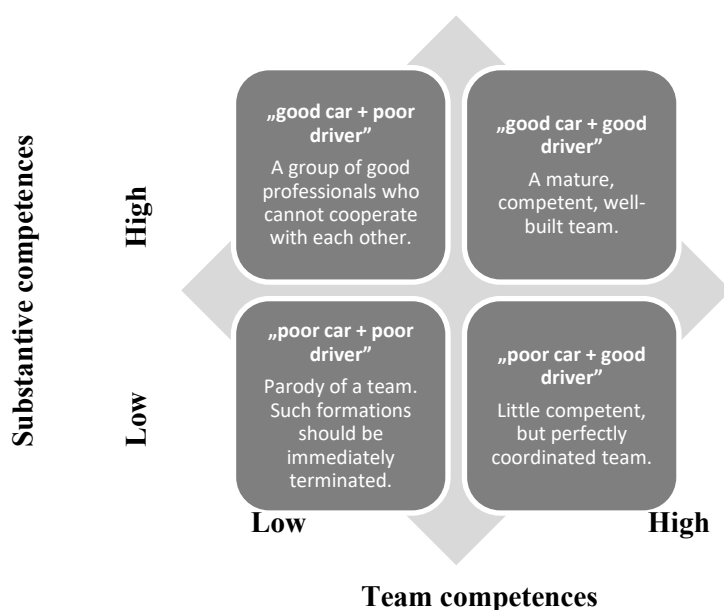


Figure 4. Matrix of dependencies between substantive and team competences [10].

Competency profile

The term „competence profile” is understood as "an ordered set of professional competences (knowledge, skills, personality traits, behaviours, attitudes) characteristic for a given position, organizational role or profession, which is used as a multifunctional tool in the process of human resources management in an organization" [11].

A competence profile, as a tool in competency management in an organisation is used to determine the most important competences from the point of view of effectively performing work on a given

position and to formulate what level of substantive skills must be met by an employee who will be or already works on a given position.

A competency profile is created in several stages. First, you need to identify and describe competences for a given position. The next step in creating a profile is to set levels of competences. The next stage, after drawing up the list of competences and determining the number and description of their levels, is to establish a model competence profile, which usually takes the form of a spider web. Then, compare these results with the observed actual levels of fulfilment of individual competences.

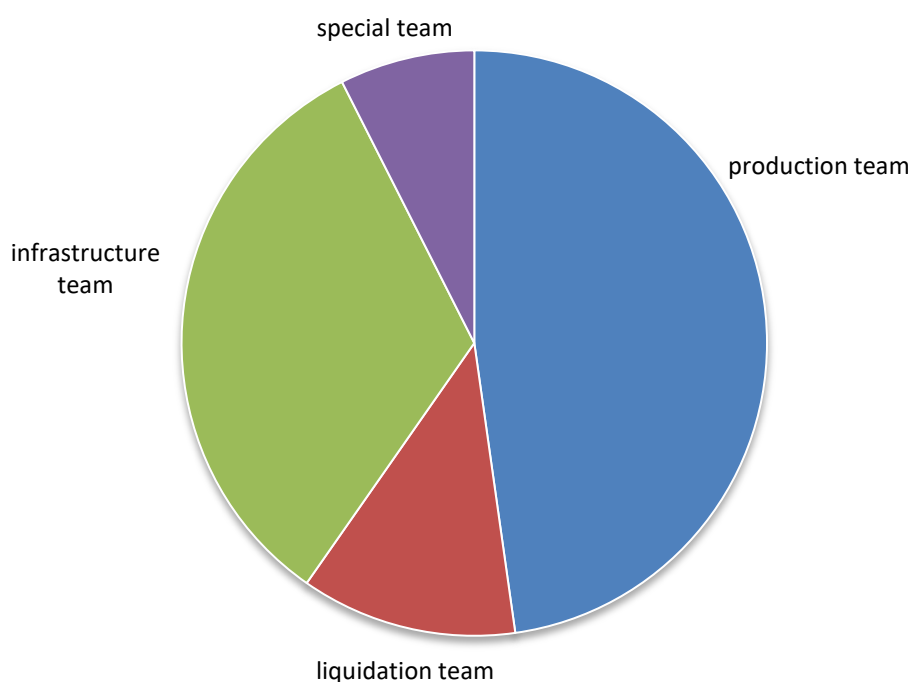


Figure 5. Types of task teams in mining enterprises [12].

Problems with correct identification of competency profiles, however, include:

- no position has unchanged content,
- functions and tasks can be performed in various ways by different units on the same position,
- do not trust the names of positions, because with the same name and in the same company there may be a need for other competencies due to different situations and working environments.

Such an analysis is usually the basis for building competence profiles. It allows to determine the employee's suitability for the position or competence gap and apply necessary actions to guide the employee in the whole learning process.

Due to the fact that in mining enterprises more and more often work teams are introduced, both in project management (figure 5) and in the way mining works are organized, the proper selection of employees for these teams is extremely important. One of the relatively simple and well-instrumented tools can be competence profiles.

2. Methodology of research

The author conducted research on the identification of the competence profile of a team of employees in the selected mine "X". The team adopted the rule of a one-man decision-making, that is all members of the team are directly subject to one supervisor and are directly controlled by him in respect of

assigned tasks. Qualitative research in combination with quantitative tools were used to study the competence profile.

With a desired competency profile of a team, it is possible to match new team members in the recruitment process, as well as to examine the matching of the existing team members and select motivational tools for them in order to adjust them to the needs of the tasks.

Assuming that the R_{ξ_0} vector is a desired competence profile of the team, and the R_{ξ} matrix is the competence profiles of individual employees (here, employee No. 1 and employee No. 2), individual competence values can be selected from the R_{ξ_0} vector. Then, among the vectors $Z_{\xi_1}, Z_{\xi_2}, \dots, Z_{\xi_{11}}$, the values, which meet the desired, assumed conditions were searched for.

Using the fulfilment of the relationship [13]:

$$|r_{l,g}| \leq r^* \text{ for } (l \neq g), \quad (1)$$

we transform the matrix R_{ξ} into the matrix R_{ξ}' by replacing all the competences for which this relationship takes place with zeros in the matrix R_{ξ} . In this way, we identify those employees who meet the desired, assumed team competences.

3. Study findings

In the 13-member team studied, the author identified the desired team universal competences and built the desired competence profile of this employee team (figure 6).

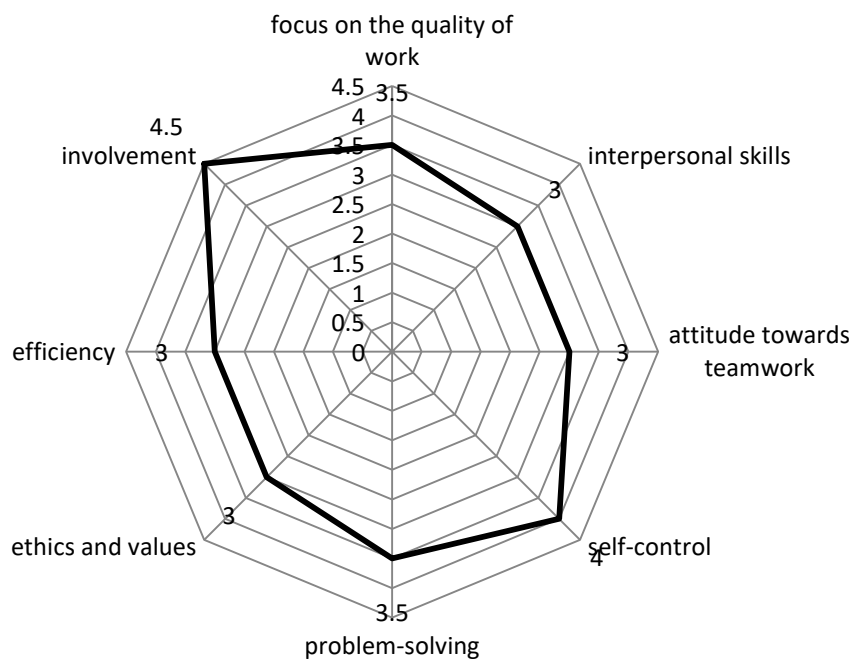


Figure 6. Desired competence profile of measuring team in "X" mine [13].

Next, competency profiles for employees No. 1 and No. 2 were built (figure 7, figure 8). Based on the developed model of the distance between the matrices, the fitness of individual employees for the team profile was determined. The results of comparisons are presented in table 1.

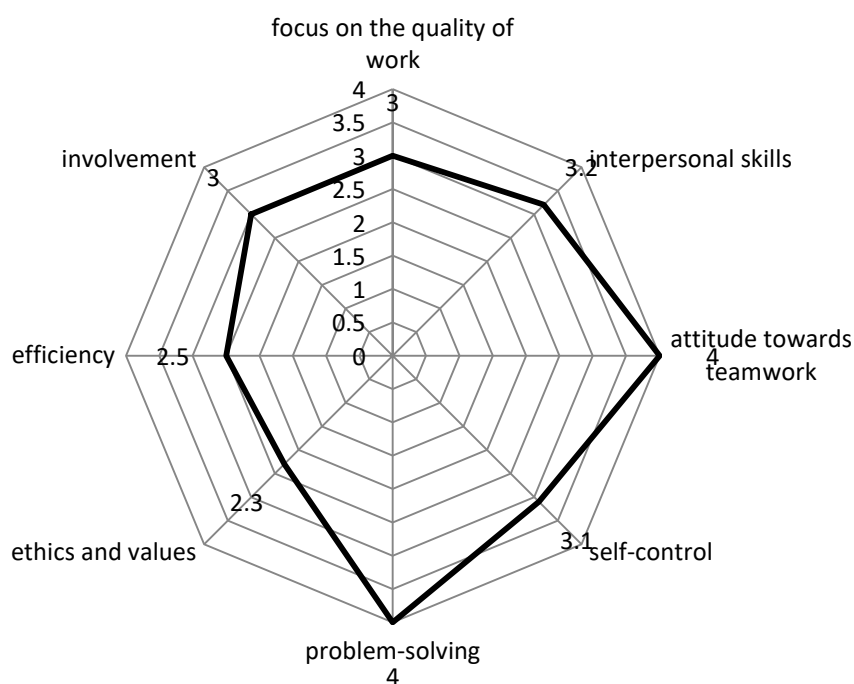


Figure 7. Profile of universal competencies of employee No. 1 from "X" mine [13].

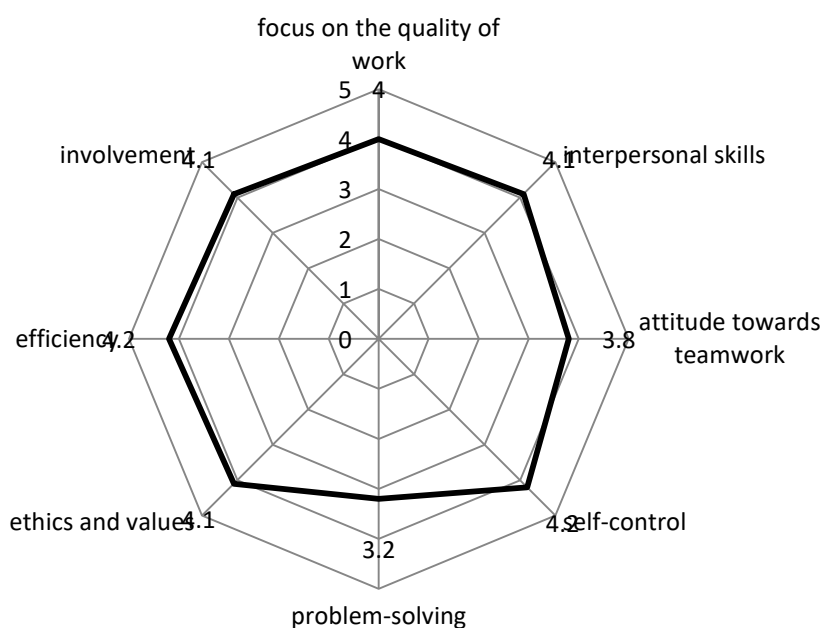


Figure 8. Profile of universal competencies of employee No. 2 from "X" mine [13].

As it results from the calculations presented in the table 1, employee No. 2 better than employee No. 1 meets the assumed competency profile of the examined team, which is not synonymous with the removal of this employee from a given department of the "X" mine. The task of the manager, who, incidentally, has strong qualities of the group's leader (according to the research conducted by the

author), is suitable for this employee to motivate and select a training system in order to better match the desired competence profile of the team.

Table 1. Results of comparative study.

List of competences	Team profile	Profile of employee 1	Profile of employee 2	Employee fitness 1	Employee fitness 2
Focus on the quality of work	3.5	3	4	0	1
Interpersonal skills	3	3.2	4.1	1	1
Attitude towards teamwork	3	4	3.8	1	1
Self-control	4	3.1	4.2	0	1
Problem-solving	3.5	4	3.2	1	0
Ethics and values	3	2.3	4.1	0	1
Efficiency	3	2.5	4.2	0	1
Involvement	4.5	3	4.1	0	0

It should be noted that it is equally important to define competency profiles of the professional skills of this team, and then the team members. In the process of creating and selecting employees with specific professional skills, the same tool that the author presented during the adjustment according to the profiles of universal competences can be used.

4. Summary of survey results

The qualifications of personnel are part of the human resource in an organization. Apart from knowledge, skills and abilities, they constitute a human potential that will be effective only when properly managed. It is important to realize that this capital cannot be increased by acquiring assets in the market. It is an internal resource of an organization and can be expanded only by investing "in yourself".

Appropriate selection of employees for tasks in mining enterprises is primarily the task of managers of working teams based on two main guidelines:

- select employees according to the ability to perform specific roles in employee teams,
- apart from selection based on universal competencies, it is necessary to define competency profiles of the professional skills of the team and team members and to determine their fitness for the tasks.

To sum up, getting to know and managing employees' competences is now essential for effective management of people in an organization.

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