

## The Components of Leadership Competences of Technical University Students

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### Abstract

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In this article, an attempt to investigate the components of leadership competences of a technical university student is made, as the question of development of managerial resources of specialist in engineering become more topical, by virtue of the growing level of society's request and expansion of social experience.

Popularity of the notion of competence over the last years is conditional upon the emphasis on the efficiency of employee's activity, its correspondence to certain standards of behavior, so, the presence of certain knowledge, abilities, skills of employee leads to achieving the target.

The topicality of the paper is caused by the circumstance that leadership competences as professionally required qualities of a student - the future engineer - are the main components of his professional adequacy.

The purpose of the given paper is to prove theoretically and to test with experiment the complex of pedagogical conditions providing the effective development of leadership competences of a technical university student in the process of studying a humanitarian discipline "Psychological studies and education".

The practical relevance consists in the growing significance of engineer's leadership and leadership abilities securing smart and effective management of working group, collective, team in conditions of growing business competitiveness and increasing demands on specialists' quality of work. Dynamic character of life and professional activity acquires from an engineer such qualities as managerial abilities, capability to join the work collective quickly, and readiness to adapt to new work conditions and to normalize the relationships between people in the process of synergy. If a student is able to master these qualities, he will achieve good results in working environment easier.

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### 1. Introduction

The problem of training of students - the future professional specialists in university in the conditions of transferring to new forms of social relations in Russia is important under the conditions

of change in socio-economic public life and escalation of situation in labor market. Competitiveness between the specialists and workers discovered the topicality of revealing the possibilities of the competitive full-fledged personal enhancement, making important decisions independent character in university (Burganova, 2013).

The effectiveness of the solution of this problem depends not only on teaching the future specialists up-to-date technologies, but also on the development of the future specialists' managerial resource. Today from graduates not only having the use of professional, but also of well-developed leadership competences are required (Wudruff, 2005).

The dynamic character of life and professional activity over recent years is associated with the emphasis on the effectiveness of employee's activity, his correspondence to certain standards of behavior, in such a way that the existence of certain knowledge, abilities, skills of the employee leads to achieving the aim. The engineer must be able to quickly join the work collective, be ready to quickly adjust to new work conditions and to normalize the relationships between people in the process of synergy, to tackle problems in independent and responsible manner under extreme conditions (Burganova, 2013).

It is also important primarily to be able to work in team towards overall result, to participate in making efficient solutions, be ready to take over the responsibility for the collective and be responsible for the collective result, even in failure. Positive attitude towards people, aspiration for the development and having no fear of strong subordinates, as well as ability and readiness to inspire, to listen to the others, to teach and to be able to organize the work at the place of production, to express personal point of view, be prepared for making unpopular decisions if necessary are a key to successful work of the modern specialist. Stress resistance; the absence of aspiration for asserting oneself at the expense of the others; real motivation for career development; ability to understand, to analyze people's behavior are also important (Ivanova, 2011).

In the conditions of growing business competition and increase of demands for the quality of specialists' work, the importance of leadership and leadership abilities of engineer, providing smart and effective managing of a group and collective team is increasing. Day-to-day people have to deal with a large amount of information, with a great number of managerial decisions – and the right choice of the behavioral style becomes of increasingly greater importance in the contemporary world. Developing his leadership competences, the student has an opportunity to reveal the potential abilities of his ego, to achieve great results avoiding overwork, receiving a new knowledge and taking pleasure while working (Biktagirova & Valeeva, 2013; Valeeva & Khakimova, 2014; Burganova, 2013; Petrushin, 2004).

Mastering and effective development of leadership competences can be of small importance and sometimes have decisive meaning for the development, prestige, competitiveness and managerial potential of specialist.

The purpose of the present article is to examine one of the pedagogical conditions concerning the development of students' leadership competences - the use of leadership training on the development of managerial skills.

## **2. Research methods**

The study and analyses of pedagogical, psychological, philosophical and methodological literature touching upon the research problem, task-oriented psycho-pedagogical observation, study of operating results, questionnaire, testing, pedagogical experiment in its various types; pedagogical interpretation of the investigation results.

## **3. The investigation results**

As our investigation has found, the realization of some pedagogical conditions promotes the development of undergraduates' leadership competences. They are as follow: the enrichment of the academic content "Psychological studies and education" with the situations of social interaction at the place of production; the performance of individual tasks, group discussions and role playing game, developing educational activity and independence of technical university students; the use of leadership training in academic activity; the systematic monitoring of the development level of students' leadership competences, aimed at revealing the correspondence of academic process to the assumed result, to the terminal learning objective (Burganova, 2013).

From our point of view, each of these conditions must effectively interact with each other.

In the present article we will examine one of the pedagogical conditions concerning the development of students' leadership competences - the use of leadership training in academic activity, aimed at revealing student's potential ego, the broadening of beliefs about the leadership as a method of organization and management of a small group, the activation of leadership potential as aggregates of self-management and management of other people.

The conception of our training suggests the understanding of leadership as a process of organization and management of a small group, promoting the achievement of group goals within the specified time limit and with the optimum efficiency. A leader is a member of group, an informal manager in the conditions of specific and significant situation for the successful achievement of activity results or a common aim in a quick manner. The leaders induce people to go beyond simple acceptance of the system, make more and better than they would do without having any leaders, and their efforts conform to the achievement of organization's purposes. The ideal leadership not only causes the achievement of target goals by the group, but also stimulates the individual development of the members of group, conduces to their self-actualization (Chiker, 2007, Kipnis, 2005, Kristopher&Smith, 2001).

The leadership training, aimed at the development of student's leadership competences, presents a method of psychological impact. By means of this method - using various techniques, people can broaden their knowledge and capabilities in leadership area, examine leader's functions:

- coordination and tracking of the working process (the analysis of information on the results, work, motivation of subordinates, the effective interaction and cohesion within the team, system-oriented case and activity analysis, forecasting, the amendment of further strategies);

- extra efforts motivation, to promote the joint understanding of the meaning and sense of a target goal, to stimulate their achievement;

- The ability to change complex problems into simple one;
- To distinguish between the stages of achieving the goal;
- To adhere to the algorithm of making a decision;
- To analyze and systematize the information;
- To structure the thoughts and to expand the main ideas in a concise way;
- To possess oneself, to be reasonable and composed in problem and stressful situations;
- To use the intuitive reserves of consciousness;
- To use other's experiment, assistance and others.

The exercises, which help to realize and overcome one's own psychological problems hindering the solution of life and professional problems, are also included in training. In the training, each participant can with the help of the others and trainer understand his unconscious fears, get rid of interior barriers, know himself better, discover his good qualities and apply them more effectively, form a more real appraisal of capabilities, see his own mistakes and faults (Chiker, 2007, Kipnis, 2005, Kristopher, Smith, 2001).

Petrovskaja (2009), Petrushin (2004), Sidorenko (2004), Chiker (2007) and others actively conducted the researches in this sphere. The basic leadership theories are also known - the theory of leader's features (interactive theory, situational theory, F. Fiedler's probabilistic theory), V. Vroom, F. Jetton and A. Jago's Normative decision model, House's Path-Goal Theory, The theory of leader's roles, synthetic concepts considering the super-leadership as an ability to make the majority of the followers into the leaders for themselves.

The academic program of training consists of some modules forming the basic conception of the program. Except for traditional procedures (role playing game, practical exercise, psycho-gymnastics), the program involves theoretically disputable blocks promoting the understanding of the leadership nature, advantages and disadvantages of leader's position, cognitive and communicative leader's abilities. In the range of usable methods, creative sessions oriented to the activation of leaders' creativity are also actively used.

The work of training groups is organized in accordance with the principles: voluntary participation, permanent self-diagnosis using texts, interaction with other participants by means of a dialogue, the realization of constant feedback link, the optimization of development, the harmonization of intellectual and emotional spheres, providing for a breathing space (free movement in a classroom). At the same time, the humanistic ideas of the training are not to compel a person, to weigh upon him; to help him to be himself, to overcome stereotypes disturbing him to live joyfully and happily, primarily in communicating with surrounding people in different social spheres.

The training of leadership competences was conducted at the practice of discipline "Psychological studies and education". Total number of training hours - from 18 to 32 depending on number of academic hours in the discipline. The concrete goals were set before each lesson. Any form of psychological training demands the corresponding qualification of a teacher.

The purpose of the first module is an acquaintance of students of the group from the perspective of their leadership abilities and ambitions (claims), labialization of the group, creation of trustful atmosphere, acceptance of interaction rules within the group. The second module is theoretical. The

role of leadership in the system of the effective organization of a group work, the basic leadership theories are discussed in it. The third module is a discussion in the process of which the image of “a universal leader” is able to have influence upon the others in the majority of cases (independent from situation) is conceptualized.

The aim of the fourth module is the development of leadership motivation by knowing the advantages of “leader’s” position for personal and professional growth; getting the positive underpinning from the group when mastering the models of leadership behavior in the situation of social interaction; the realization that positive changes in one’s own leadership behavior began happening; the development of a positive image “I’m as a leader”.

At the fifth lesson students familiarize themselves with the techniques of confronting the manipulators; broad their beliefs about the organizational leadership, solidify knowledge about the models of leadership behavior.

The sixth lesson includes mini-lecture on confrontation of the lack of self-confidence, manipulation and media of their neutralization.

The seventh module is the strengthening of knowledge about the models of leadership behavior and positive leadership motivation. This module includes creative sessions, where people conduct a group discussion about habits hindering the leadership. The presentation profile of a leader reflecting any sphere of his life is designed: features that are universal for all leaders, managerial capacity and abilities, image and leader's behavior, way of life, values, attitude towards other people, having no bad habits, attitude towards life and managerial style. At the creative session students consider super-leadership as self-management of their leadership potential. It comprises of an individual generation of a strategic plan for the purposes and development methods of leader’s behavior and qualities. For this, creation of motto and its presentation are important.

In the summary round of training the participants, exchange impressions, sum up changes on individual and group levels, emotional state and new vision of their leadership potential. It is discussed who and how often, in which situations was advanced by the group as a leader. The student of group formulate wishes and express gratitude to each other.

As a basic method for studying the results of leadership, competences development was used for the diagnostic method in the form of written self-reports of the participants. The diagnostics of leadership potential is conducted at the beginning of the training and upon its completion. In accordance with test results and observation at the lessons, psychological characteristic is created and personal recommendations are made.

After gathering all self-reports we present the following picture:

41% of students noted, that they knew much about themselves, about their possibilities, made discoveries about themselves, found leadership qualities in the organization of joint business activity, mastered persuasion skills, learned to perform in front of an audience; received important information on the leadership: gained knowledge, collected thoughts together, understood that person itself builds the relationships, learned new tasks and exercises.

37% of students found friends, learned to be friends with others, experienced strong emotional stress, felt strong emotional release, learned to control their emotions when arguing, learned to use non-

verbal means in communicating; opened the world of the other person for themselves, realized that all people were different, and each person had his own psychology, his own mysterious world; 7,2% of students took interest in the psychology of leadership, various types of behavior (assertive behavior, aggressive behavior, passive behavior, active behavior) and the psychology of personality; it became interesting for students to keep watch over themselves and to analyze their actions.

15,8% of students became more open, "here we told the truth", "I succeeded in overcoming barriers in communicating with others", knew value of communication, "I began to appreciate the magnificence of communication", solved the problems in interaction, got rid of mental pain, "overcame range of speech barriers", acquired experience in new communication, "learned to understand real-life unfamiliar situations".

6,2% of students received a stimulus to self-improvement, "there is a breaking point in my life", "I will try to change myself now", "I understood that I should refine myself", "I received a stimulus to creation"; increased their self-acceptance, found themselves, conducted self-analyses of their leadership potential, understood that "in order to live in comfort, one should constantly step out of his comfort zone".

#### 4. Conclusion

It is noteworthy that the leadership training promoted not only mastering professionally important qualities and abilities, but also creation of conditions for knowing their potential. The training allowed the mastering of attainments in level increase of personal effectiveness and consciousness in the sphere of leadership behavior.

Therefore, the leadership training in business interaction develops the leadership competences. At first sight, one can hardly develop them, but they certainly will bear fruit and yield results.

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