



Formation of Future Teachers' Leadership Competence at a Higher Education Institution

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Abstract

The article substantiates the need to form leadership competence among future teachers in the conditions of university education. The authors generalized and concretized the concept of "leadership competence" of the future teacher, defining it as a particular competence, namely the meta-competence. The research aimed to define the possible ways to form future teachers' leadership competence in mastering the educational program "Pedagogy and Psychology." The algorithm for future teachers' leadership competence development is suggested in the given article.

The confirmation of the accepted hypothesis is justified by the presented results of the study, which showed positive dynamics in the level of formation of the studied competence. The effectiveness of the consistent and purposeful formation of the future teacher's leadership competence in studying psychological and pedagogical disciplines and passing pedagogical practice has been proven.

Keywords: education, competence, leadership competence, teacher training, professional training.

1 Introduction

Changes in the economic sphere in the world as a whole, and the state in particular, which have been taking place with increasing force in recent decades, have impacted the higher education system. There are changes in production, and new technologies appear/improve, including innovative technologies for teaching and training future specialists. The educational programs (EP) developed by higher educational institutions must keep up with the changes. Therefore, the competencies that were the competencies of the future at the time the applicant entered the university become irrelevant by the end of his studies, often not applicable in professional activities, and do not correspond to the expected reality (Kjellgren & Richter, 2021).

Currently, specialists who perceive problems as a possible path to advancement, both in personal growth and in the growth of the organization itself, and who can promptly propose and make managerial decisions are increasingly in demand. (Chan et al., 2022; Shevyakova et al., 2021).

This confirms that the competitive specialist will be the one who, in comparison with theoretical knowledge in a particular field of science, will demonstrate practical competencies to a greater extent, striving to master new competencies. (Konrad et al., 2019).

In this regard, the “leadership” competence in the real world should be considered the most significant and necessary for the future teacher. This statement is confirmed in the OECD document, which lists leadership competence as one of the 15 skills and competencies of the future. (OECD, 2019). One of society and the state's requirements for training future specialists in higher education is the formation of leadership competencies and teamwork skills (McGill et al., 2020).

The formation of leadership competence implies a purposeful competence-based approach in the educational process of a higher educational institution, the process of which, through communicative interaction in the systems “student-student,” “adviser-student,” “student-teachers,” “student-employers,” allows to acquire leadership behavior experience and develop leadership competencies.

2 Leadership competencies in education

The importance of leadership in the international education system is one of the elements that contribute to the quality of education at all levels and makes its evaluation a matter of enormous interest. What is essential to know about leadership comes from an in-depth analysis of the performance of managers in relation to planning and strategy, staff, collaborators and resources, and including educational processes and

achievements as a whole. In addition to all this, it is necessary to include a specific block to evaluate the exercise of leadership in multicultural contexts.

Through its application, it is possible to verify a high evaluation system in the exercise of leadership. In the context of globalization. A university is not only measured against its own role or against other universities in the country or in a local context but a university is inevitably measured against the most competitive universities in the world, which means that universities are required to produce and present scientific research that is comparable to that of leading universities in order to produce the graduates that companies want to employ, which is why it is important to define leadership and the resulting transfer of knowledge through appropriate training processes.

To do this, technology, economics, administration, but also health, the environment and public policy leadership competencies become decisive factors, which produce meaningful interpretations and visions in the field of culture. How could educational institutions interact in a complex, modern and globalized educational system? Universities act as an appropriate mode if they prefer self-programming, in the medium and long term, to mere adaptation to contexts; in the use of their own academic autonomy and freedom of action and as a tool for self-renewal and innovation. There is therefore a need to rationalize an outdated, obsolete system, instead of conforming to it, and where research becomes central as in teaching, services, etc., instead.

There is a need to adopt open and participative leadership, and at the same time to have management focused on results in order to ensure an open, polemical and critical climate, capable of motivating both educators and students this becomes the cultural turning point that we must in this work delve into starting from the issues just stated.

The academic and professional training of the teacher is necessary but not sufficient to have pedagogical leadership as a managerial tool of teaching. There should be a competence-oriented education too.

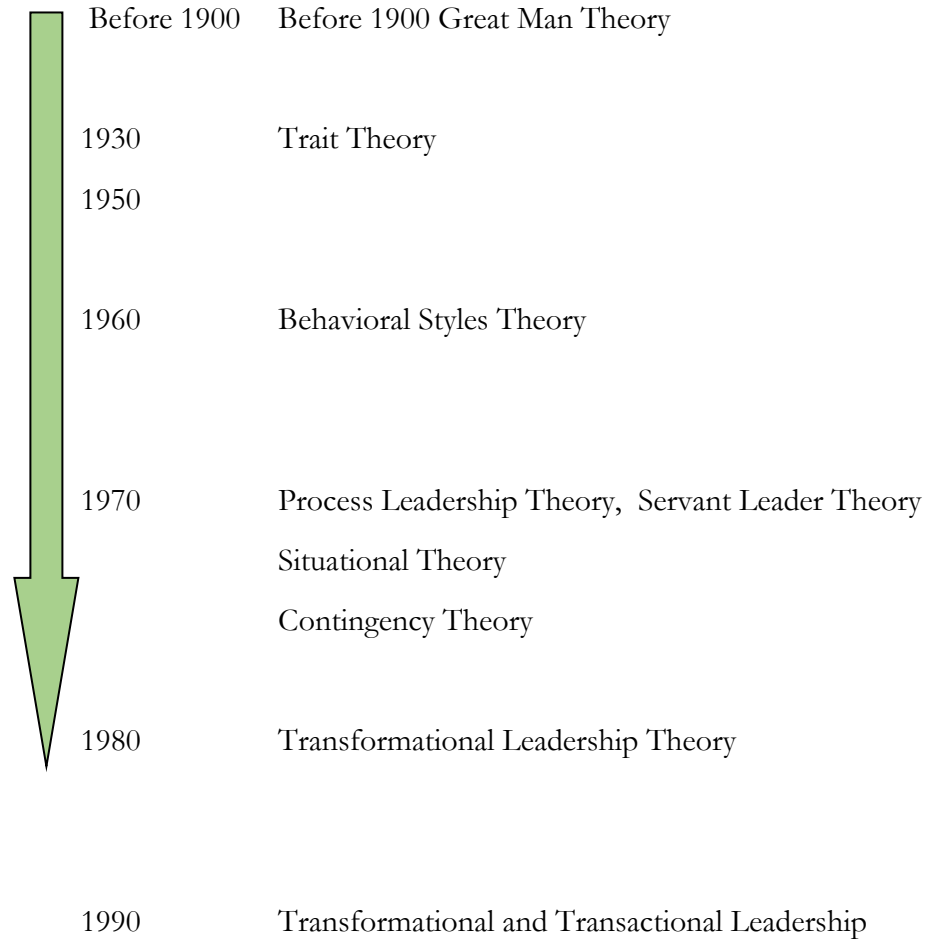
The concept of competence is a multidimensional concept, whose meaning depends on the variety of contexts and uses. Therefore, the exploration of this notion covers different disciplinary fields. In linguistics, competence is defined as the ability to produce language, as opposed to performance, which consists of the actual use of language in concrete situations (Chomsky, 1965). In psychology, the notion of competence is rather recent. It is often used as a synonym for the more common term 'attitude' (Amadiou and Cadin, 1996).

Ergonomics approaches competence in terms of the 'intelligence of practice' as a stabilized set of knowledge and know-how, standard behaviors, standard procedures, and types of reasoning, which can be implemented without new learning (De Montmollin, 1984). Competence is thus composed of knowledge, know-how and

metaknowledge. The educational sciences also conceive competence as 'knowledge in use' (Malglaive, 1990) Competence is not a state of being or possessed knowledge. It is not reduced to knowledge or know-how. It cannot be equated with training. Possessing knowledge or skills does not mean being competent. Updating what is known in a singular context (characterised by working relationships, institutional culture, risks, time constraints, resources, etc.) is the 'transition' to competence. Which is achieved through action. Competence does not lie in the resources (knowledge, skills, etc.) to be mobilized, but in the mobilization of these resources themselves (Le Boterf, 1994)

Leadership as a topic of research goes back to 1950's when trait theorists studied to find out the characteristics of a successful leader, later in 1978 Burn developed the Transformational Leadership Theory. The theory of Burn served as a stat point for other theories like the Transformational and Transactional Leadership styles developed by Bass. Historically the theoretical frame of leadership started in 1847 with the work of Scottish philosopher Thomas Carlyle "On Heroes, Hero-Worship and the Heroic in History" in which he described and compared leaders like Julius Cesare, Abraham Lincoln, Mathma Gandi and concluded that all these leaders were born with innate leader's characteristics - "Great Man". The Great Man Theory was later developed in 1994 by Hogan with Big Fife Models of Personality but the first attempts at trait definitions were done by Smith and Kruger in 1933 and continued by Jenkins in 1947. Discussion of the leadership concept has got to analyze leadership through task orientation versus relationship orientation by Fleishman in 1955 and later by Bales in 1958

The Historical development of the theory of leadership can be assumed in the figure below.



Evolution, review of Theories

Figure 1 Leadership Theories

Concerning the role of leadership in education Newman and Wehlage in 1991 and later in 1996 Hallinger and Heck thanks to their research proved that leadership is crucial to educational innovation. More they proved the important role of institutions in the improvement of students learning and that scientific knowledge about organizational structures, leadership roles, and institutional conditions is the multitude.

Analysing the literature on Leadership style and Education Anghel arrived at the conclusion that leadership is highly linked with innovation in education:

“Build and promote an educational project ;develop and maintain a school culture conducive to exchanges on essential instructional techniques by building standards of trust, collaboration, and intellectual stimulation among staff members; obtain and allocate resources-material, time, support, compensation; support professional, individual, and collective training; ensure summative and formative follow-up of teaching and innovation; establish a school climate where disciplinary questions are erased before pedagogical questions.”

The role of class environment, the thrust on leaders on final results that are the students’ academics outcomes has been studied and argued by A Bryck Sebastian et. al. started from idea of Bryck and proposed Conceptual model of school leadership, mediating processes, instruction, and student learning.

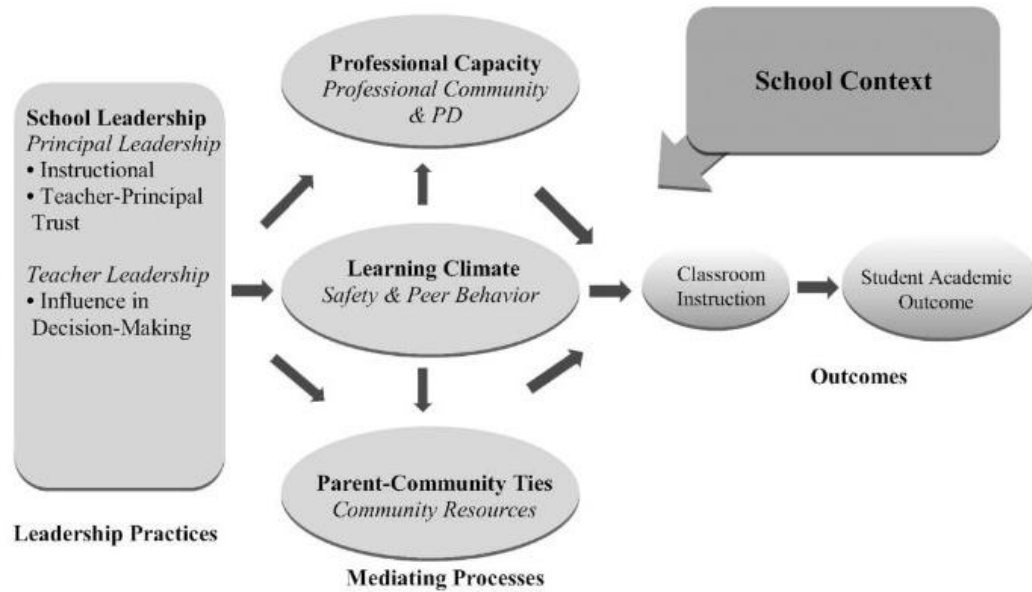


Fig. 2 Conceptual model of school leadership, mediating processes, instruction, and student learning. (Source: Sebastian e al 2012)

In this model, the authors divided the process in:

- Leadership Practices - where they showed the importance of trust in leaders and the role of team leadership.
- Mediating process (proposed firstly by Bryck) where is showed the weight of collaboration between Families and Schools and the importance of Teacher professional preparation and updating of the knowledge and competencies; the role of teacher's preparation on using the new technologies during the teaching process (Kuzembayeva & Spulber, 2022)
- The last is the Sector of Outcomes - how the Trust on leaders Teachers' leadership is reflected in Class and school learning environment or in the school context and as a result in Student Outcomes

After different literature analysis, it is clear that leadership competencies play a great role in student's learning outcomes.

3 Materials and Methods

The experimental study's purpose was to form future teachers' leadership competence in mastering the educational program "Pedagogy and Psychology." The objectives of the study included the systematization of the theoretical and methodological foundations of the concept of "leadership competence," the identification of its criteria and indicators, as well as the experimental study of the process of formation of leadership competence among university students as part of the cycle of psychological and pedagogical disciplines.

The pilot study involved twenty-five third-year students of the educational program 6B01101 "Pedagogy and Psychology" of M. Kozybayev North Kazakhstan University, Petropavlovsk.

To diagnose the criteria for leadership competence in students, we used the following psychodiagnostics tools: "Test of self-assessment of leadership qualities" by L.N. Lutoshkina, "The level of reflection of the teacher" by A.V. Karpova, V.V. Ponomarev. These psychodiagnostics methods were used both at the ascertaining and control stages of the experiment. The advantage of these methods is identifying the general level of the studied variables and their components.

The formative stage of the experiment implied the inclusion of modules in the disciplines of the psychological and pedagogical cycle ("Critical and Creative Thinking," "Pedagogical Excellence," "Methods of Teaching Psychological and Pedagogical Disciplines") aimed at developing the leadership competence of future teachers. To assess the dynamics of the formation of leadership competence, we used the Wilcoxon T-test.

The study results' reliability and validity were ensured by the observance of the methodological principles of work, the use of standardized methods that are adequate to the purpose and objectives of the study, and the statistical significance of the results obtained.

4 Results

The analysis of sources on the formation and development of leadership skills, leadership, and systems management allowed us to generalize and clarify the concept of "leadership competence" concerning the future teacher. In our study, leadership

competence is understood as a change in personal and professional characteristics that provide a new level of needs, readiness, and opportunities for the formation and development of leadership competence, self-development, and self-realization of the future teacher in the process of professional activity.

Based on the Holton and Lynham leadership competency model (Figure 1), we have identified the criteria and indicators of leadership competency (Table 1).

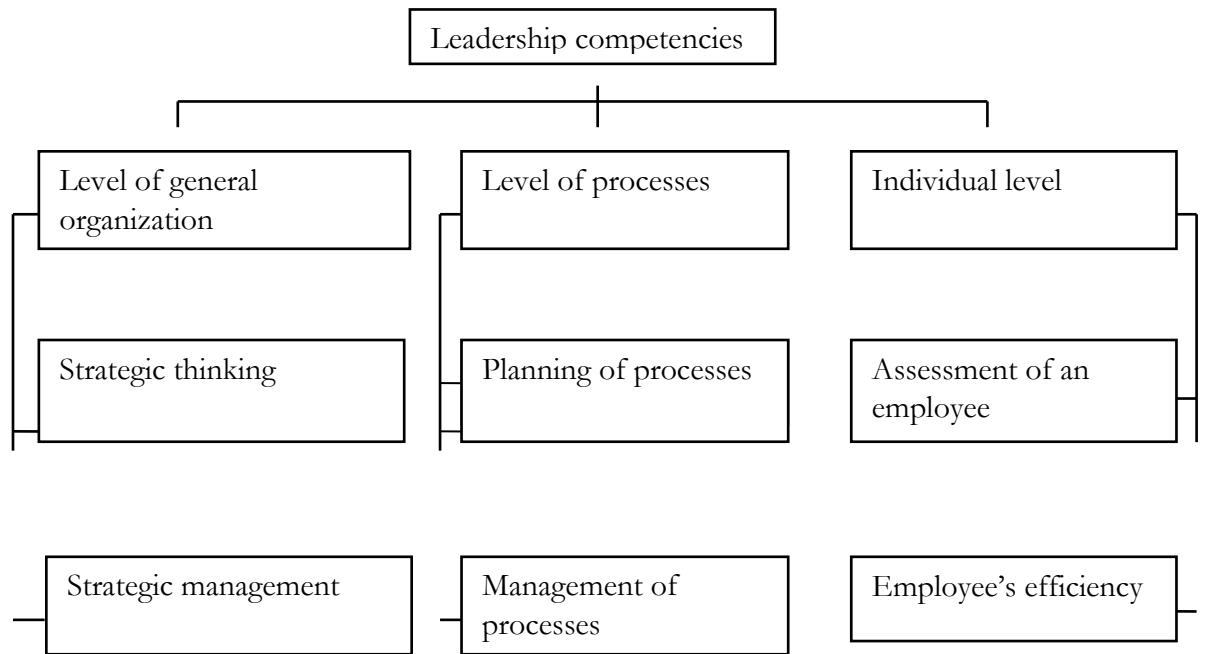


Fig. 1: Model of leadership competencies by Holton and Lynham

| Competence | Criteria | Indicators |
|--|---|---|
| Leadership Competence (LC) - change in personal and professional characteristics that provide a new level of needs, readiness, and opportunities for the formation and development of leadership competence, self-development, and self-realization of the future teacher in the process of professional activity. | Professional reflection/motivation on the need for development, self-improvement and self-development | 1 Uses practical information to prioritize LC 2 Develops and monitors a plan for the continuous development of LC 3 Evaluates the effectiveness of changes/growth in the LC |
| | Quality management of self-development and self-realization, focused on achieving a leadership position | 1 Manages the effectiveness of achieving the goals of the formation of LC 2 Broadcasts own achievements in LC |

Table 1: Criteria and indicators of future teacher's leadership competence

The implementation of the experimental study was based on the inclusion in the content of the disciplines of the fifth semester of study “Critical and Creative Thinking,” “Pedagogical Excellence,” “Methods of Teaching Psychological and Pedagogical Disciplines” of the educational program “Pedagogy and Psychology” modules aimed at the formation of personal and professional characteristics, in particular, a professional reflection of the teacher and self-assessment of leadership qualities.

The program of the course “Critical and Creative Thinking” included the module “Development of Reflective and Strategic Thinking” (volume - 5 lectures, five practical lessons).

As forms and methods of work at lectures and practical classes, the following were used: an interactive method, role-playing games, training, analysis of problem situations, and case solving.

As an illustration of the methods of work we use, we will give an example of the case “Professional reflection of a teacher.”

A generalized formulation of the task: in the list of professional and personal qualities of a teacher-leader, among the mandatory ones, such a quality as pedagogical reflection is distinguished - the ability to analyze the content and results of one's pedagogical activity, correlate these data with the goals and objectives set, identify the causes of success and failure in working with students.

Context of problem-solving: develop an algorithm for the teacher's actions to develop pedagogical reflection.

The following essential tasks that will lead to the case solution were developed within the research:

1. Develop a questionnaire and diagnose your reflective abilities.
2. Analyze the survey results, highlighting your "strong" and "weak" aspects of professional activity.
3. Formulate recommendations for the development of pedagogical reflection, considering your survey's results.

The case solution product is the list of the developed recommendations.

The program of the course "Pedagogical excellence" included the module "Professionally important qualities of a teacher-leader" (volume - five lectures, five practical classes).

When implementing this module, we used psychological training on the topic "Emotional Intelligence and Leadership" as one of the teaching methods.

The purpose of the training: the development of the emotional intelligence of future teachers to increase flexibility, the effectiveness of interaction with the outside world, and accelerate the achievement of goals.

The expected results of the training:

- increasing the emotional background of the training participants;
- increasing the adaptation of training participants to changing conditions of reality;
- increasing the effectiveness of interpersonal relationships;
- awareness of one's own emotions and experience, and the ability to clothe them in the form of behavior that is adequate to the situation;
- acquiring the skills of understanding other people's emotions;
- development of communication and empathy skills.
- introspection of the level of development of emotional intelligence.

The content of the course "Methods of Teaching Psychological and Pedagogical Disciplines" included the module "Innovative Teaching Methods as an Effective Means of Increasing the Leadership Competence of Teachers" (volume - five lectures, five practical classes). The teacher-leader can creatively approach the search for ways to activate and intensify the learning process, as well as apply innovative methods that contribute to the activation of the cognitive activity of students. During the study of this module, students were asked to develop a project of an academic discipline using innovative teaching methods.

The implementation of the project by students was carried out through the solution of the following tasks:

1. Highlight topics in the subject's content that can be studied through innovative teaching methods.

2. Determine the nature of the teacher's interaction with students in the context of learning through innovative teaching methods.
3. Describe the specifics of the teacher's activity related to the inclusion of students in the innovative educational process.

Before the start of the experiment and after its completion, we conducted the diagnostics of leadership competence: self-assessment of leadership qualities and the level of reflection of the future teacher.

To assess the significance of differences in the level of self-assessment of leadership qualities among students before and after studying disciplines, we used the Wilcoxon T-test (Table 2).

| Variable | Empirical values | Accepted hypothesis |
|--|------------------|---------------------------|
| Level of leadership qualities' self-assessment | T emp = 6 | H1 ($\alpha \leq 0,01$) |

Table 2 Empirical values and the accepted hypothesis of the Wilcoxon T-test in terms of the level of self-assessment of leadership qualities among students (n=25) Source: Developed by the authors.

It can be concluded that statistically significant shifts in the empirical values of the level of self-assessment of leadership qualities were revealed after studying the disciplines. Students began to feel more capable of looking for and trying new things, distributing their forces in study and work, and solving problems in stages and not all at once. The students noted an increase in the level of control and awareness of emotions and behavior; their actions aimed to achieve a goal they understood. On the part of the communicative sphere, there have been positive changes in the level of trust in others. The ability to influence the emotions and decisions of other people while taking into account their opinion and mutual understanding in the study group has increased.

A qualitative analysis of the components of self-assessment of leadership qualities showed that the most significant changes among students occurred in the following areas: awareness of the goal, creativity, and organizational skills.

The results of the mathematical processing of experimental data on the level of development of reflection of the future teacher are presented in Table 3.

| Variable | Empirical values | Accepted hypothesis |
|---|------------------|---------------------------|
| level of students' reflection development | T emp = 13 | H1 ($\alpha \leq 0,01$) |

Table 3: Empirical values and the accepted hypothesis of the Wilcoxon T-test according to the level of students' reflection development (n=25) Source: Developed by the authors.

The analysis of Table 3 shows that in students, the intensity of shifts towards an increase in the level of development of reflection before studying disciplines exceeds the intensity of shifts towards its decrease.

Students are more inclined to analyze their activities and other people's actions to find out the causes and consequences of their actions in the past, present, and future. They tend to think about their activities in great detail, carefully plan them and predict all possible consequences.

The results of a qualitative analysis of the components of the reflection of the future teacher made it possible to highlight that the reflection of the present and future activities, as well as the reflection of interaction with other people, have undergone the most significant changes.

Thus, the formation of criteria for the competence of leadership in future teachers becomes manageable with the methodological justification of the actualized activity in the framework of the study of psychological and pedagogical disciplines.

5 Discussion

Stakeholders and educators in higher education are unanimous on the issue of the formation and development of skills of the twenty-first century; leadership competence is one of these skills (Wagner, 2015).

The lack or insufficient formation of leadership competence does not meet the demands of the modern day and the labor market, leading to a gap between core and professional competencies and competencies that allow a higher education graduate to be competitive (Akdere et al., 2019).

The study results showed that students understand and accept the importance of leadership competence - the desire to interact, work in a team, build an action plan, and make decisions (Fajaryati & al., 2020).

Considering that the predicted future is a rapidly changing reality, the training of future teachers should be focused on obtaining a guaranteed result in the formation of competencies required in the field of education at all levels.

6 Conclusion

Analysis of the conducted experimental study results allows us to conclude that the developed academic disciplines included in the Educational Program 6V01101 "Pedagogy and Psychology" are practical. Many researchers agree with the statement that leadership competencies must be developed in the process of professional training, simultaneously with the formation and development of professional competencies. The leadership competence of the future teacher will allow him to be in demand in the labor market. It will positively impact the effectiveness of functioning in professional activities.

We see further research into the dynamics of the leadership competence of teachers who have begun professional activities. It will be necessary to analyze how successfully they fulfill their official and functional duties and create conditions for developing leadership skills among their learners.

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