

## TEACHER LEADERSHIP AT TECHNICAL UNIVERSITY

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The purpose of the article is to study the specificities of students' perception of teacher leadership based on a comparison of the respondents' assessments of teachers' and managers' personal qualities that define them as leaders in their professional activities. Teacher leadership may be associated with innovation, the use of techniques, pedagogical skills, organisational skills, creativity, personal qualities, etc. The following methods have been used in the research: questionnaires and tests based on the method of personal differentials. To determine the peculiarities of teacher leadership, a comparison between respondents' answers about teacher-leaders and manager-leaders was made. The first group of respondents who evaluated the teacher-leaders included 87 students enrolled in the 6<sup>th</sup> year (master course) at the National Technical University “Kharkiv Polytechnic Institute”, Ukraine. The personal qualities of the manager-leaders were assessed by the masters of the “Public Management and Administration” at the same university, who study the master course having working experience from 3 to 23 years. The number of respondents in the second group was 81 students. The results of the research made it possible to determine that students associated pedagogical leadership, first of all, with moral and ethical qualities, pedagogical skills and the subject knowledge of their teachers. On the contrary, the qualities of active life most closely were associated with a manager-leader. The obtained results can be used in the development of university teachers' training programmes.

**Keywords:** teacher leadership; personal qualities; teacher-leader; manager-leader; moral and ethical qualities.

### Introduction

In various aspects, educational leadership can be considered: as an institutional leadership or as an individual leadership; as an innovative paradigm for the management of an educational institution or as an expert leadership (Kalashnikova, 2016). An important public mission of the higher education institution is broadcasting of up-to-date knowledge, scientific research, training of specialists with a high level of professional and social competence, critical thinking, creativity and competitiveness. The leading role of universities in the implementation of a social mission is determined by many factors. However the most important of them is the quality of the university staff, highly skilled administration and scientific personnel.

Educational leadership is mostly considered through the prism of management of an educational institution. In particular, the distributed leadership model implies the responsibility of all teaching staff in the achievement of the goals of an educational institution (Bayraktar, Fidan, Sencan, 2018; Holloway, Nielsen, Saltmarsh, 2018; Von Esch, 2018). The influence of a managerial staff on teachers and educational institution effectiveness are also emphasised (Giddens, 2018; Kohtamaki, 2019; Sirisooksilp, Ariratana, and Tang, 2015; Szeto and Cheng, 2018).

There is another direction of teacher leadership research in the context of the teaching and learning process (teacher leadership). Cheung, Reinhardt, Stone, Little (2018) devised the Science Teacher Leader Profile, it involves four main activities including the modelling effective instruction. Based on the analysis of the perception of educational leadership by doctoral students and PhD students of the professoriate and an educational leadership professor (mentor) Malin and Hackmann (2016) considered and detailed the model of mentoring. Zacher and Johnson (2015) indicated that PhD students' perception of their professors as transformational leaders positively correlates with the ratings of professors' creativity. But they didn't predict such dependence on passive-avoidant and transactional leadership. Yang and Dong (2017) determined the correlation between leadership styles and the students' intrinsic and extrinsic educational motivation. Jiang and Jia (2018) studied the teachers' leadership styles including classroom climate and they defined the influence of these factors on the students' learning motivation.

Teacher leadership is directly related to the quality of teaching and accordingly affects the quality of student learning (Rani and Prasad, 2017). According to the Ukrainian educational reforms and the results of modern studies, the quality of teaching should be the subject of constant attention of the university (Pidbutska, Knysh, and Chala, 2017). In this research, we analyse the teacher leadership and we think that this research is useful for the improvement of the educational process of higher school.

University teacher leadership may be associated with innovation, the use of authorial techniques, pedagogical skills, organisational skills, creativity, personal qualities, etc. We believe it is especially important to study how students perceive teacher leadership, which teachers they consider as leaders and

how their qualities are estimated since it is the students who directly interact with teachers in the educational process that are influenced by the quality of their teaching and pedagogical skills.

The **purpose** of the article is to study the peculiarities of students' perception of teacher leadership based on a comparison of the respondents' assessments of teachers' and managers' personal qualities which they define as leaders in their professional activities. The main tasks of the research were:

1. Definition of personal qualities of teacher-leaders and manager-leaders by students of higher education institutions.
2. Comparison of respondents' assessments of teachers and managers by means questionnaires and tests.
3. Determination of the main trends in student assessment of teacher leadership.

### Research methods

To assess the students' perceptions of teacher leadership, a questionnaire that included an open response from respondents was designed. Students were asked to describe personal qualities of any particular teacher they could describe as a teacher-leader.

The first theories of leadership (charismatic, trait theories, and behavioural theories) concerned, first of all, the manager's activities. The teacher also organises the work of the student group in its activities and manages the teaching activities at the classes. The teacher, like the manager, sets goals, plans to achieve them, motivates, organises and controls the results, it can be marked by a special charisma and inspire students to succeed. At the same time, we assume that teacher leadership has distinctive features related to the specifics of teaching activity. To determine the peculiarities of teacher leadership, a comparison between respondents' responses to teacher-leaders and manager-leaders was made. Respondents with work experience in various organisations and enterprises were also asked to answer the open questionnaire, but it was necessary to describe a teacher-leader.

The analysis of the questionnaire results was carried out using the method of content analysis. The units of the texts' analysis were personality traits, which were grouped into certain categories according to the content of the answers. For example, to the category of quality, "active life position" (active life position implies the ability to actively transform the surrounding reality in accordance with the goals, willingness to overcome obstacles and vigorously act to succeed) was attributed: purposefulness, determination, energetic, efficiency, self-confidence, activity, etc. The analysis of questionnaires provided for the determination of the percentage for each category in two groups of respondents.

For statistical analysis of the results of the questionnaire, Fisher's criterion was used: the number of responses for each category was compared for the two groups of respondents. The critical value was  $p \leq 0.01$   $\varphi^*_{cr} = 2.31$ .

Another method used in the research was testing according to the method of the personal differential, which was adopted at the St. Petersburg Psychoneurological Research Institute, named after V. Bekhterev (Fetiskin, Kozlov, and Manuilov, 2002). The method involves a differential evaluation of 21 pair of human qualities (on a scale of 3, 2, 1, 0, 1, 2, 3). Respondents from the two groups had to choose one grade in each pair, which shows the degree of manifestation of a certain quality in the teacher-leader and the manager-leader, respectively. In generalised calculations for each group of respondents, if the points of one quality in a pair were taken with the sign „+”, then points placed to opposite quality were subtracted. The average arithmetic was calculated for each of the qualities that the group of respondents defined as more pronounced, and a comparison was made between the results of the test and the questionnaire.

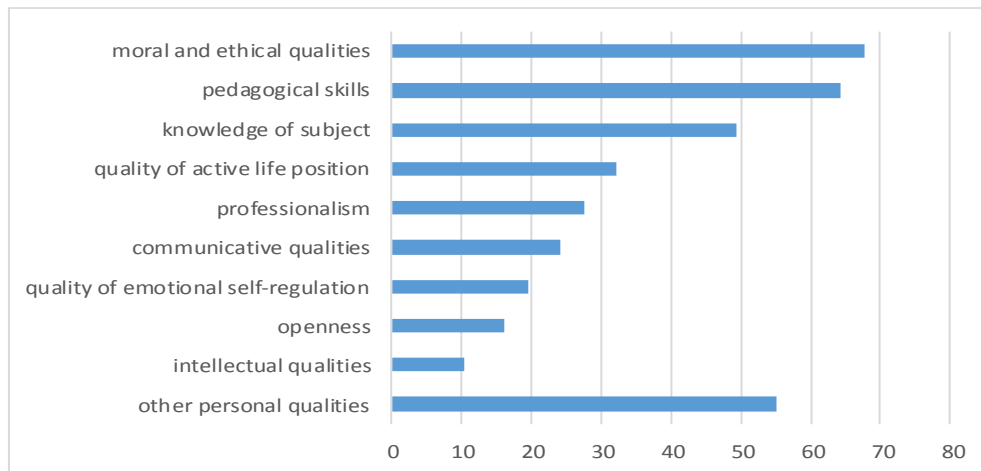
The statistical analysis of the test results was carried out using the Student's criterion. Fischer's criterion was used to analyse the results of the questionnaire, since there was a comparison of two indicators characterising the frequency of the feature, which has two meanings (the number of respondents who pointed out the personal qualities of a certain category and the number of respondents who did not mention such qualities in one and the other group of respondents (independent groups). The application of the Student's criterion for analysing test results is related to verifying the equality of mean values in two independent groups. The critical value was  $p \leq 0.01 - t_{cr} = 2.61$ .

The first group of respondents included the 6<sup>th</sup> year students (master course) of both engineering and humanitarian specialities (87 persons) at the National Technical University „Kharkiv Polytechnic Institute” (NTU „KhPI”, Ukraine) who, consequently, have considerable experience in communication with teachers in the academic environment. The personal qualities of manager-leaders were assessed by the masters of the speciality „Public Management and Administration” at the same University who started the master course, having experience from 3 to 23 years in various organisations (the number of respondents in the second group is 81 persons). Experimental data collection took place during 2015-2017 with using simple serial sample.

**Results**

The questionnaire results analysis made it possible to determine that students associate teacher leadership, first of all, with moral and ethical qualities and pedagogical skills (in their responses 67.82% and 64.37% of respondents noted the qualities of these categories). Most of the students who described the teaching skills of a teacher-leader, indicated the ability to explain the educational material „well”, „understandably”, „efficiently” and „accessibly” (67.86%), the ability to get interested, to capture students’ attention (48.21%), an individual approach to each student – 21.43%, other peculiarities of pedagogical skills were met much less.

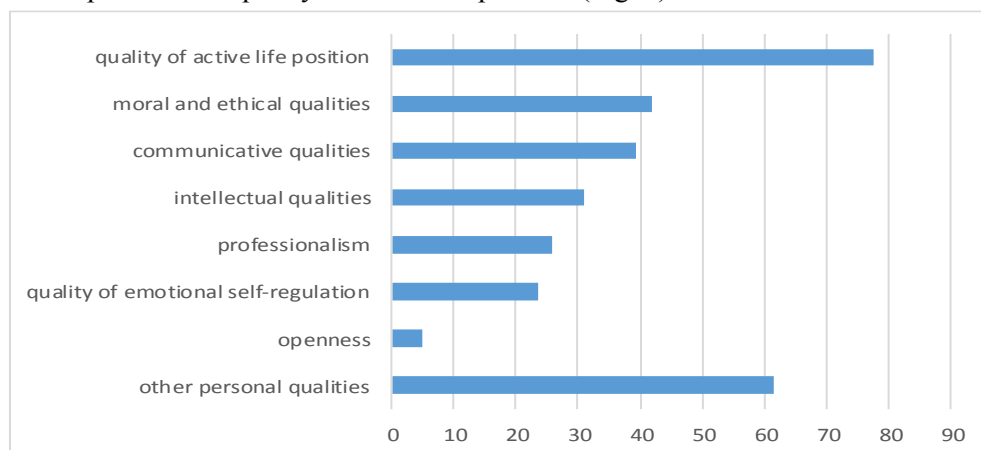
Almost half of the interviewed students (49.4%) noted the knowledge of their subject as a quality of a teacher-leader („deep knowledge of their subject”, „enormous knowledge of their subject”, „excellent knowledge of their subject”, „perfect knowledge of their subject”, etc.). Significantly, fewer students noted the quality of active life position (32.18%), professionalism (27.59%), communicative qualities (24.14%) and the quality of emotional self-regulation (25.29%), even less openness (16.09%) and intellectual qualities (10.34%) (Fig. 1).



**Figure 1. Personality traits associated by students with teacher leadership**

While describing a manager-leader, respondents most often mentioned the quality of active life position (77.78%), to a much lesser extent – moral and ethical (41.98%) quality. Further, the frequencies of mentioning were communicative qualities (39.5%), intellectual qualities (30.86%), professionalism (25.93%), quality of emotional self-regulation (23.45%) and openness (4.94%).

Consequently, if the teacher leadership was mostly associated with the moral and ethical qualities, then the manager leadership – with the quality of active life position (Fig. 2).



**Figure 2. Personality traits associated by students with a manager leadership**

When describing the teacher, 67.82% of respondents called moral and ethical qualities, they also stated the most about kindness and responsiveness (by 33.9% for both qualities), followed by the frequency of mentioning: responsibility (30.5%), justice (28.8%), and honesty (15.3%), other qualities were much less frequent (humanity, generosity, tact, integrity, sincerity, friendliness, compassion, morality, decency, conscientiousness, benevolence, humanism, politeness, etc.). In general, students’ answers as for the moral

and ethical qualities of a teacher-leader were quite varied and detailed. As a rule, students called several qualities (on average, one response has 2.46 qualities).

Only about one-third of the students noted the quality of active life position of a teacher-leader (32.18%), 17.86% of respondents stated self-confidence and 14.29% stated vigilance. In general, in the questionnaires, which referred to such qualities, on average there were called 1.17 qualities, that is, responses concerning the activity of teachers cannot be called extended.

Contrary to this, respondents most closely associated the leadership of the manager with the qualities of active life position (77.78%), 33.33% stated that the manager-leader is decisive, 28.57% – self-confident, 26.98% – focused, 19.05% – energetic, 15.87% – efficient, 9.88% – active, other qualities were less frequent (will power, „invincible” will, perseverance, persistence, obstinacy). In general, the average number of qualities related to the activity of a manager-leader in such questionnaires was 2.36, that is, respondents adequately characterised this particular feature of a person. In the description of the same moral and ethical qualities, in the questionnaires, where they were mentioned, the average number of such responses was 1.18, that is, often-interviewed ones mentioned only one moral feature of a manager, and only sometimes more than that. 41.98% of the respondents stated moral and ethical qualities, the highest number of them (41.17%) indicated responsibility, to a lesser extent (32.35%) - conscientiousness, and even less (23.53%) - justice.

Fisher's analysis confirmed the statistical significance of the difference in the two groups in the number of responses as for the moral and ethical qualities ( $\varphi^*_{emp}=3.4$ ) and in terms of the qualities of an active lifestyle ( $\varphi^*_{emp}=6.127$ ). Besides, the statistical analysis showed the difference in the number of responses in the category of „openness” ( $\varphi^*_{emp}=2.461$ ): a teacher-leader is more often perceived as an open person than a manager-leader.

The statistically significant difference in the frequency of responses concerning intellectual qualities in the two groups of respondents was rather unexpected ( $\varphi^*_{emp}=3.407$ ). In the „portraits” of manager-leaders, intellectual qualities (intelligent, smart, high intelligence, prudent) were mentioned more often than in the „portraits” of teacher-leaders. We suppose that such a result is because students perceive a teacher-leader, who „knows his subject deeply” and is accessible and clearly explains the material of his discipline, as a priori intelligent, and therefore did not indicate these qualities in their responses.

Statistical analysis showed insignificant difference in the frequency of respondents' responses as for communicative qualities (communication skills, oratory, developed communicative qualities, sociability, ability to find common ground with people, etc.) in two groups –  $\varphi^*_{emp}=2.157$ , according to professionalism –  $\varphi^*_{emp}=0.246$ , according to the qualities of emotional self-regulation (emotionally stable, calm, persistent, restless, restrained, patient, etc.) –  $\varphi^*_{emp}=0.628$  and other personal qualities –  $\varphi^*_{emp}=0.855$ .

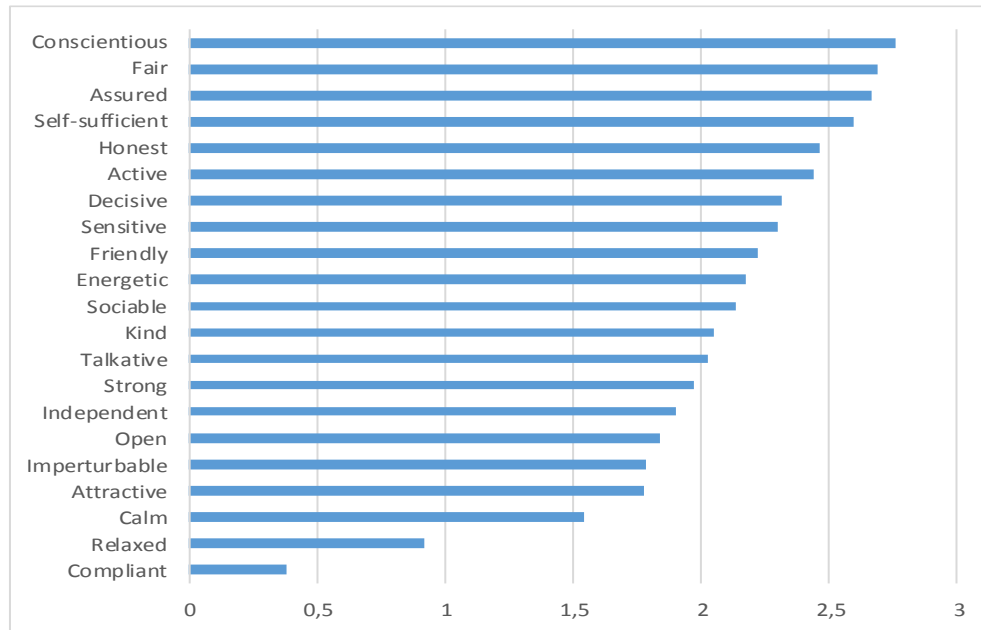
Professionalism is quite a broad concept, but we have identified such a semantic category because respondents quite often stated in their answers „professional”, „high professionalism”, „seasoned professional” or other similar answers, „master of its craft”, „has high-level qualifications” and others.

Quite a significant number of respondents' responses were classified as „other personal qualities” (55.17% and 61.73% with the description of teacher-leaders and manager-leaders, respectively) reflecting the individual characteristics of the compiled „portraits”. To this category, some answers could not be combined with certain content characteristics in other categories, they were quite diverse, but the frequency of mentioning the individual qualities of this category was low.

For 55.17% of the respondents who described the „other personal qualities” of a teacher-leader, the greatest number (16.67%) noted diligence, following by the frequency of responses: organisation and discipline (14.58%), sense of humour and attentiveness (12.5%), gladness (10.42%), other answers were singular (intelligence, artistry, optimism, elegance, punctuality, personal influence ability, charisma, leniency, demanding, constant self-development ability, etc.).

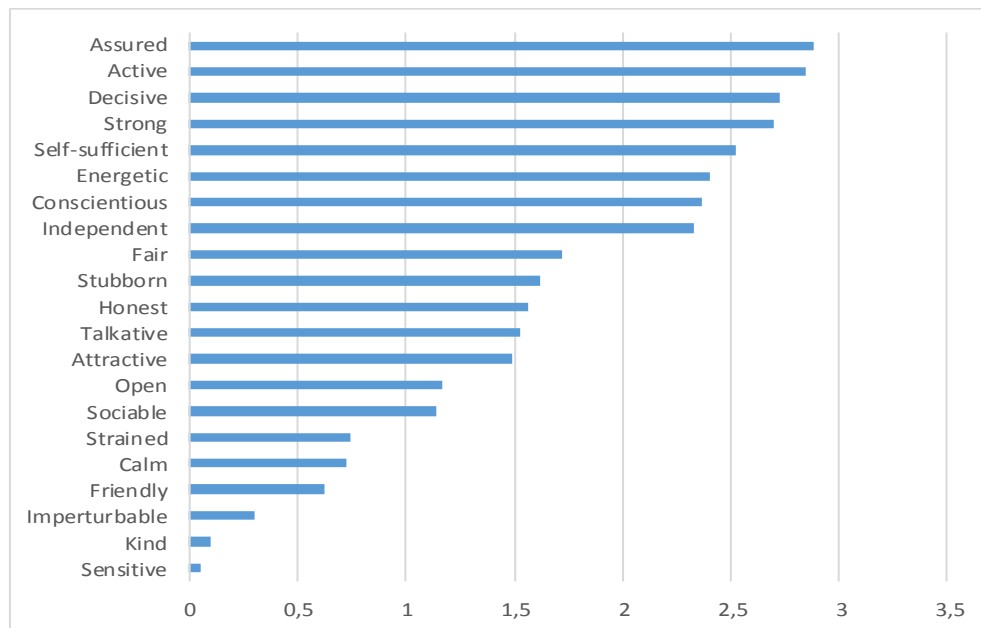
The number of responses in the description of a manager-leader classified as „other personal qualities” was 61.73%, out of which 16% indicated charisma, independence and ability to motivate people – 14%, autonomy – 10%, the ability to think strategically – 8%, other responses were singular (inflexibility, attentiveness, observation, motivation for success, ability to risk, demanding, diplomatic, charm, courage, creativity, and others). It should be noted that if the respondents did not indicate negative qualities in the description of teacher-leaders, then, at the description of manager-leaders, such qualities occurred (cowardly, hard, unfriendly, avoidant, authoritarian, etc.).

According to the testing results due to the method of personal differential, students evaluate such qualities of teacher-leaders as the most developed: conscientious and fair (as the arithmetic mean, 2.76 and 2.69 respectively) (Fig. 3). Other qualities (honest, sensitive, friendly, kind) that we considered during the survey as moral and ethical were also evaluated by respondents quite high (arithmetic average for each was more than 2: 2.47; 2.3; 2.22; 2.05).



**Figure 3. Personality traits level in teacher-leaders estimated by students**

At the same time, when assessing manager-leaders (Figure 4), only one quality (conscientiousness) of the ethical ones included in the methodology was assessed rather high (average 2.37), two least developed qualities in terms of respondents from manager-leaders are kind and sensitive (average is 0.1 and 0.05 respectively). A small arithmetic average show that a large number of respondents consider executives to be more selfish than good, and rather rough, than sensitive.



**Figure 4. Personality traits level in manager-leaders estimated by students**

Statistical analysis by Student's test allowed to identify significant differences in the assessment of all moral qualities represented in the technique in two groups: teacher-leaders are more conscientious ( $t_{emp}=3.4$ ), fair ( $t_{emp}=6.4$ ), honest ( $t_{emp}=7.1$ ), sensitive ( $t_{emp}=8.8$ ), friendly ( $t_{emp}=8$ ) and kind ( $t_{emp}=8.8$ ) than manager-leaders.

Among the qualities that respondents rated as the most developed, the first four are what we consider as an active life position – confident, active, decisive, strong (average 2.88; 2.85; 2.73; 2.7, respectively), such quality as energetic is rather high (average 2.4), to a lesser extent is stubborn (average 1.62). Respondents highly evaluated qualities of this category in teacher-leaders: assured (average 2.67), active (average 2.44), energetic (2.18), strong (1.97). However, statistical analysis showed significant differences in the assessments of two groups of respondents: managers are more assured ( $t_{emp}=3.1$ ), active ( $t_{emp}=4.4$ ),

energetic ( $t_{emp}=3.4$ ), strong ( $t_{emp}=4.87$ ). Only in such a quality as the energy between teacher-leaders and manager-leaders, there was no significant difference ( $t_{emp}=1.7$ ). At the same time, on the scale of stubborn-compliant, if the respondents assessed managers as stubborn (average 1.62), then teachers are rather compliant (average 0.38). According to the student's criterion for this scale, there is a significant difference in the assessments of the respondents of the two groups ( $t_{emp}=8.9$ ).

Thus, when assessing moral and ethical qualities of teacher-leaders, respondents rated them as more advanced than manager-leaders. On the contrary, manager-leaders are generally more advanced than teachers as for the quality of an active life position.

Emotional self-regulation of teacher-leaders is evaluated higher than of manager-leaders: they are more imperturbable (average 1.79 and 0.3 respectively) and calm (average 1.54 and 0.72 respectively). By Student's criterion for two scales  $t_{emp}=6.1$  and  $t_{emp}=3.6$  respectively. A low average shows that although a large number of respondents rated managers as imperturbable, a significant number of responses however reflected managers' assessments as rather annoying than imperturbable, the same is true for the fussy-calm scale: a large number (although not the major) considers managers to be more likely fussy than calm. Regarding the scale of the relaxed-stressed, while the teachers were estimated by the majority of respondents as being more relaxed (average 0.92), the managers were estimated as strained (average 0.75). The respondents' responses to this scale have a statistically significant difference ( $t_{emp}=8$ ). Teachers have a greater degree of ability to control their emotions; they are more calm and relaxed than managers.

The questionnaire showed that the frequency of mentioning such quality as openness is significantly higher when describing teacher-leaders than manager-leaders. Moreover, according to the test results, students rated this quality as more advanced among the teachers (results are statistically significant) rather than among managers (with an average of 1.84 and 1.17, respectively,  $t_{emp}=3.3$ ).

For other qualities, which envisaged the evaluation test method, a statistically significant difference was identified only by sociability: this quality was rated higher among the teachers (average 2.14 and 1.14 respectively  $t_{emp} = 4.7$ ). Both teachers and managers were assessed as equally self-sufficient, talkative, independent, attractive ( $t_{emp}=0.8$ ;  $t_{emp}=2.3$ ;  $t_{emp}=2.5$ ;  $t_{emp}=1.5$ , respectively).

## Discussion

The research results to some extent coincide with the results of a survey of Ukrainian universities' rectors on the key features of a manager-leader, conducted within the framework of the TEMPUS project „Education for leadership, intelligence and talent development”. The published results of the questionnaire, in which 90 universities of Ukraine took part, conducted during June-September 2014, stated the following in particular. “It is impossible to ignore the low moral and ethical qualities: morality (10), spirituality (8) and justice (8) and especially critical in the present is patriotism (4), defined by respondents in the profile of a university manager-leader” (Aarna, Hudoniene, Huzar et al., 2014, p. 53). At the same time, according to the results of the questionnaire, the highest rank among the key features of a manager-leader has such moral and ethical quality as responsibility. According to the research, the responsibility of a manager-leader was defined as a less significant quality than some others, but among moral and ethical qualities, it was assessed as the highest. Such qualities that we attributed to the „qualities of an active life position” were identified as the most important for a university manager-leader: determination, purposefulness, perseverance (Aarna, Hudoniene, Huzar et al., 2014, p. 46).

We believe that the results of our research are to some extent consistent with the situational leadership theory. The main idea of this theory is that there is no single, „best” management style for the manifestation of a leadership position, and the specific peculiarities of the situation may require a specific behaviour and manifestation of certain qualities of a leader (Hersey, Blanshard, Dewey, 2013). A significant number of respondents' marked „other qualities” to characterise teacher-leaders and manager-leaders, reflecting an individual approach and an individual behaviour of each leader.

We agree with Leiserson and McViney (2015) who pay attention to the necessity of teacher leadership education. Natale and Libertella (2016) argue the importance of moral education in higher educational leadership. We think that the results of our research can be used for the creation of teacher leadership development programme and it will promote the improvement of teachers' professional activities.

When developing such a programme, it should be considered that a teacher should not only be pedagogically competent, possess the method of teaching and the ability to easily explain and attract students' interest. The most important for a teacher-leader, according to the students, is to be a kind, sensitive, responsible, fair, honest person.

## Conclusion

Students associate teacher leadership, above all, with moral and ethical qualities, pedagogical skills and teacher's knowledge of a subject. On the contrary, a manager-leader is the most closely associated by respondents with the qualities of an active lifestyle (determination, purposefulness, activity, energetic, etc.). Statistical analysis showed a significant difference in the frequency of mentioning the moral and ethical qualities and qualities of an active lifestyle when respondents describe teacher-leaders and manager-leaders. The test results also showed that respondents rated moral and ethical qualities as significantly more advanced among teacher-leaders than manager-leaders, and, conversely, they tend to consider the quality of an active life position among manager-leaders rather than among teachers as more advanced ones. The respondents also appreciated the quality of emotional self-regulation (calmness, impenetrability), openness and sociability as a significantly more advanced among teachers. In the process of improving the teachers' professional activity, special attention should be paid not only to their pedagogical skills and knowledge of the subject but also to the relationship with students based on moral and ethical principles.

## References:

- Aarna, O., Hudoniene, D., Huzar, O. et al. (2014). *Rol universytetu u rozvytku liderskoho potentsialu suspilstva: kontseptualni zasady* [The role of the university in developing the leadership potential of society: conceptual foundations]. Kyiv, Ukraine: DP „NVTs „Priorityty”.
- Bayraktar, O., Fidan, Y., & Sencan, H. (2018). The effect of individual assertiveness and effective communication behaviors of education managers on distributed leadership perception of teachers. *Journal of History Culture and Art Research*, 7(5), 396-420. <https://doi.org/10.7596/taksad.v7i5.1918>
- Cheung, R., Reinhardt, T., Stone, E., & Little, J. W. (2018). Defining teacher leadership. *Phi Delta Kappan*, 100(3), 38-44. <https://doi.org/10.1177/0031721718808263>
- Fetiskin, N.P., Kozlov, V.V., & Manuilov, G.M. (2002). *Sotsialno-psikhologicheskaya diagnostika razvitiia lichnosti i malykh grupp* [Socio-psychological diagnosis of personality development and small groups]. Moscow: Izd-vo Instituta Psikhoterapii.
- Giddens, J. (2018). Transformational leadership: What every nursing dean should know. *Journal of Professional Nursing*, 34(2), 117-121. <https://doi.org/10.1016/j.profnurs.2017.10.004>
- Hersey, P. H., Blanchard, K. H., & Johnson, D. E. (2013). *Management of organizational behavior : leading human resources*. Boston; London: Pearson.
- Holloway, J., Nielsen, A., & Saltmarsh, S. (2018). Prescribed distributed leadership in the era of accountability: The experiences of mentor teachers. *Educational Management Administration & Leadership*, 46(4), 538-555. <https://doi.org/10.1177/1741143216688469>
- Jiang, Z., & Jia, Z.-R. (2018). Effects of Physical Education Teachers' Leadership Styles and Classroom Climate on Learning Motivation for Basketball Course. *Eurasia Journal of Mathematics Science and Technology Education*, 14(4), 1351-1357. <https://doi.org/10.29333/ejmste/81296>
- Kalashnikova, S. (2016). *Rozvytok liderskoho potentsialu suchasnoho universytetu: osnovy ta instrumenty* [Development of the Leadership Potential of a Modern University: Fundamentals and Tools]. Kyiv: DP „NVTs „Priorityty”.
- Kohtamaki, V. (2019). Academic leadership and university reform-guided management changes in Finland. *Journal of Higher Education Policy and Management*, 41(1), 70-85. <https://doi.org/10.1080/1360080X.2018.1553499>
- Leiserson, C.E., & McVinney, C. (2015). Lifelong learning: Science professors need leadership training. *Nature*, 523(7560), 279-281. <https://doi.org/10.1038/523279a>
- Malin, J.R., & Hackmann, D.G. (2016). Mentoring as socialization for the educational leadership professoriate: a collaborative autoethnography. *Mentoring & Tutoring*, 24(2), 158-178. <https://doi.org/10.1080/13611267.2016.1170561>
- Natale, S.M., & Libertella, A.F. (2016). Higher Education and Wealth Equity: Calibrating the Moral Compass Empathy, Ethics, and the Trained Will. *Journal of Academic Ethics*, 14(1), 35-47. <https://doi.org/10.1007/s10805-015-9249-z>
- Pidbutska, N., Knysh, A., & Chala, J. (2017). Future Engineers' Psychological Readiness For Common Competencies Development In The Process of Studying „Professional Psychology”. *Science and Education*, 11, 133-138. Retrieved from <https://scienceandeducation.pdpu.edu.ua/uk/articles/2017-11-doc/2017-11-st17>
- Rani, S., & Prasad, U.D. (2017). Impact of leadership styles on teacher effectiveness. *The Journal of Indian Management & Strategy*, 22(2), 50-57. <https://doi.org/10.5958/0973-9343.2017.00016.3>
- Sirisooksilp, S., Ariratana, W., & Tang, K. N. (2015). The impact of leadership styles of school administrators on affecting teacher effectiveness. *Procedia Social and Behavioral Sciences*, 186, 1031-1037. <https://doi.org/10.1016/j.sbspro.2015.04.022>
- Szeto, E., Cheng, A. Y.-N. (2018). Principal-teacher interactions and teacher leadership development: beginning teachers' perspectives. *International Journal of Leadership in Education*, 21(3), 363-379. <https://doi.org/10.1080/13603124.2016.1274785>
- Von Esch, K.S. (2018). Teacher leaders as agents of change. Creating contexts for instructional improvement for English learner students. *Elementary School Journal*, 119(1), 152-178. <https://doi.org/10.1086/698753>
- Yang, C.-B., & Dong, M.-K. (2017). A study of the correlation between teachers' teaching styles and students' participation motivation in the physical education. *Journal of Baltic Science Education*, 16(2), 199-206. Retrieved from <http://oaji.net/articles/2017/987-1513970788.pdf>
- Zacher, H., & Johnson, E. (2015). Leadership and creativity in higher education. *Studies in Higher Education*, 40(7), 1210-1225. <https://doi.org/10.1080/03075079.2014.881340>

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