Middle-East Journal of Scientific Research 18 (1): 37-41, 2013
ISSN 1990-9233

DOI: 10.5829/idosi.mejsr.2013.18.1.12340

Psychological Conditions of Pedagogical Staff's Innovation Activity

Tatiana Nikolaevna Razuvaeva

Belgorod State National Research University, Belgorod, Russia

Abstract: The subject of the author's research based on the developed cultural-historical psychology activity approach is psychological conditions that determine the activity and effectiveness of pedagogical staff's participation in innovation activity. The article testifies that psychological conditions of pedagogical staff's innovation activity are: the focus of the staff on changes, the ethical readiness to solve innovation activity tasks, positive perception of innovation activity conditions, readiness to use cultivated methods to control this activity and to perceive the innovations from the outside, that determine their readiness to get into this activity in whole. The model of pedagogical staff's readiness to innovation activity and the instruments of its evaluation suggested by the author can be an effective method of analyzing the ability of schools pedagogical staff to get into active and effective participation in schools development problems solution and the education development programs.

Key words: The activity theory · The innovation activity · The readiness of the pedagogical staff to innovation activity · The subject of the innovation activity · Innovative activity of the staff · Potential effectiveness of the innovation activity · Social and psychological structure of the staff

INTRODUCTION

External and internal factors determine continuous development of school education. In their response to the demands of modern times the Russian schools introduce changes into their pedagogical systems. But as analysis of practice had shown the content of changes taking place in educational institutions and the rate of their implementation do not correspond to social requirements. By now it becomes more evident that in order to modernize schools it is necessary to actualize school potential. Now we face practical problem of improvement of innovation activity in schools and this problem can be solved after elaboration of scientific base. Such scientific base is being formed in the framework of relatively new scientific area of focus called "pedagogical innovatics". By now different models have been developed to carry out changes in school activity (V. Bespalko, L de Kaluve, E. Marx, M. Petri, V. Lazarev, M. Potashnik, Greenwood J.D., Murphy I. and others) [1-6]. Tools and notions of pedagogical innovatics are being developed (K. Angelovsky, E. Gorenkov, S. Polyakov, V. Slastenin, L. Podymova, O. Khomeriki, N. Yusufbekova, Janson Ulf and others) [7-13]. Structure of innovative processes is being investigated (A. Arlamov, V. Zhuravlev, V. Lazarev, B. Martirosyan, H. Arrow, M. Poole, Henry K.B., Wheelan S., Moreland R.; West M.A. anderson N.R.; Zaltman G., Duncan R., Holbeck J.) [14-19]. Methods of evaluations and implementation of novations are proposed (A. Arlamov, V. Lazarev, B. Martirosyan, O. Khomeriki, Cattel R.B., Guzzo R.A. Dickson M.W.; West M.A. anderson N.R. and others) [14-22]. Studies of pedagogical innovatics have shown that involvement of pedagogical staffs into innovative activity is of utter importance. But in theory this problem has not been studied properly: neither pedagogical innovatics, nor psychology have developed methodological base for solving practical tasks of how to increase innovation activity of pedagogical staffs. This determines up-to-date character of this study.

The aim of this study is to find out psychological conditions of innovation activity of pedagogical staffs and to build theoretically and empirically consistent model of readiness of pedagogical staffs for innovation activity.

Corresponding Author: Tatiana Nikolaevna Razuvaeva, Belgorod State National Research University, 85, Pobedy St., Belgorod, 308015, Russia.

Methodological base of the study are general ideas and principles of pragmatist approach to psychology studies (A. Leontiev and A. Petrovsky) [23, 24] and pedagogical innovatics (V. Lazarev, B. Martirosyan, L. Podymova, M. Potashnik, O. Khomeriki, N. Yusufbekova and others) [3, 16, 10, 4, 11, 12].

Methods: In order to achieve the goal of the study the author proposes unique method of evaluation of psychological conditions of innovation activity of pedagogical staffs - RIA - readiness for innovation activity. The source of primary data are opinions, estimates, assumptions of school principals, teachers and experts.

Psychological conditions for innovation activity (potential innovation activity) are evaluated by 3 criteria and 62 indicators. Innovation activity is assessed by 10 indicators.

Main Part: Psychological conditions for innovation activity of pedagogical staffs are the components of its readiness for such activity. Readiness of pedagogical staffs for innovation activity is understand by us as such feature of a staff which determines its activity and effective participation in solving tasks of school development. Optimally active and maximally effective participation of all members of the staff in solving tasks of school development determines the level of readiness for innovation activity. Ideally there can be a structure when activity of teachers in innovation activity management will be optimal and effectiveness of their participation will be as maximal as possible in existing conditions.

In accordance with 5-component model of readiness of pedagogical staffs for innovation activity (T. Razuvaeva) [25] the following psychological conditions must be emphasized which determine innovation activity of a staff: orientation of the staff to changes, moral readiness for solving tasks of school development, positive attitude to conditions of innovation activity.

Parameter *"orientation to changes"* means the degree to which the attitudes of school's staff members to developmental needs correspond to socio-psychological structure of an ideal staff. Attitude of a teacher to needs of educational activity development of the school or his own pedagogical activity is realized in the form of subjective estimate of the correspondence to what it must be. Here different variants of subjective estimates are possible: from recognition of full correspondence to recognition of necessity of radical changes. In ideal socio-psychological structure of a pedagogical staff (in the structure of ideal staff) all teachers must be oriented to development of both educational system of a school in general and its parts in particular and to development of their own activity.

Parameter *"moral readiness"* means readiness to take over oneself the responsibility for solving tasks meant for school development in general and its parts. It works in the same way as it was described above - this parameter is compared with ideal staff where all teachers are willing to participate in innovation activity management, in all levels.

Recognition of necessity of changes in school educational system and readiness to take responsibility for solutions of tasks while managing these changes are necessary but insufficient conditions for active participation of teachers in innovation activity. If conditions existing in a school are assessed by teachers as unfavorable for participation in innovation activity it will negatively influence innovation activity.

In ideal psychological structure of a pedagogical staff all teachers assess existing conditions as rather favourable for their own participation in innovation activity, as ones that allow to implement their axiological orientations and avoid too much stress and negative emotions.

Mentioned above components form the structure of potential innovation activity of a teacher and teaching staff. The parameters can be evaluated by 3 grades: high, medium and low. Depending on combination of these parameters and grades readiness of a staff for innovation activity we can identify 27 types of socio-psychological structures of innovation activity, in particular: HHH - staffs with high orientation for changes, high level of moral readiness for participation and high level of positive perception of conditions for innovation activity; MMM - staffs with medium orientation for changes, medium level of moral readiness for participation and medium level of positive perception of conditions for innovation activity; LLL - staffs with low orientation for changes, low level of moral readiness for participation and low level of positive perception of conditions for innovation activity.

An ideal structure is a structure of HHH type. The closer is socio-psychological structure of a teaching staff to ideal structure in terms of attitude to needs of school development in general and its parts in particular, to taking responsibility for solution of school development tasks in general and its parts in particular, to

assessment of existing in school conditions; in terms of opportunity to realize one's own axiological orientations and avoid undesirable sequences of one's own participation in it, the more is readiness of a pedagogical staff for innovation activity.

Empirical testing of proposed model was carried out in pedagogical staffs of 29 schools with different level of innovation activity. Schools were chosen through preliminary assessment of experts.

The first stage of analysis of primary data is evaluation of potential innovation activity of pedagogical staffs. Then assessment of real participation of teachers in solution of tasks was made and the indicators of potential innovation activity were compared with real innovation activity.

By the indicator *of potential innovation activity* the schools were distributed in the following way:

- High level - 15 schools (52%);
- Medium level - 14 schools (48%)

By indicator of *orientation to changes of educational system* pedagogical staffs formed almost equal groups - with medium and low levels. Necessity of radical changes of teaching system is not recognized by Russian schools. At the first stage in most participants' opinion, small changes are necessary. Medium and senior school stages are the most problematic and needing changes. Material and technical support of schools must be greatly changed. Medium-sized changes are necessary in such components of pedagogical system as educational technologies at senior and medium stages and the ways of assessment of the results of education, also, at senior and medium stages.

By indicator *moral readiness* for innovation activity the most part of pedagogical staffs showed medium level. Empirical medium data demonstrate rather high level of responsibility of teaching staffs for school development. Typical thinking in pedagogical staffs is that goals of school development must be set by the teachers themselves, not by administration. In general, the tasks of improvement of pedagogical activity in school must be solved by both administration and teachers.

As it can be observed, the best results in investigated schools were shown by indicator *positive perception of conditions for innovation activity*. Teachers believe that favourable external conditions are formed in schools. Such external conditions as "School administration encourages and supports participation of teachers in innovation activity " and " School administration fairly distributes awards for achievements in innovation activity" are highly appraised. Teaching staffs found out such conditions which decrease motivation for avoidance of participation in innovation activity. In particular, highly appraised were such conditions as:

- Colleagues at work do not manifest negative attitude to teachers who actively perform innovation activity;
- Innovation activity do not bring-in conflicts with colleagues.

Study of assessment by pedagogical staffs of favorability of environment for satisfaction of inner conditions for participation in innovation activity has shown that teachers are ready to be involved in this activity if it is interesting for them, evokes positive emotions and the significant results can be achieved in it.

By method of Spearman's ranking correlation direct positive relationship was found between real innovation activity of a pedagogical staff and its potential innovation activity: r = 0,71. These results are presented in Table 2.

U-criterion of Mann-Witney demonstrated significance of differences in innovation activity of groups with different types of socio-psychological structure.

Analysis of Table 3 showed that there exist significant differences in innovation activity between groups with high grades of moral readiness, orientation for changes in pedagogical system, positive attitude to school conditions for innovation activity (HHH) and other 26 groups: it proves our suggestion that a group with ideal socio-psychological structure will manifest higher innovation activity than groups with other structures.

As we see the closer is socio-psychological structure of a pedagogical staff to ideal structure of collective subject of innovation activity the higher innovation activity of pedagogical group is. Differences between groups in innovation activity: BBB (HHH) – BBC (HHM) – BBH (HHL) ($p<0,01$), HHB (LLH) – HHC (LLM)- HHH (LLL) ($p<0,01$), CCB (MMH) – CCC (MMM) – CCH (MML) ($p<0,05$); BBB (HHH) – BCB (HMH) ($p<0,01$), HBB (LHH) – HCB (LMH) – HHB (LLH) ($p<0,01$); BBB (HHH) – CBB (MHH)– HBB (LHH) ($p<0,01$) show empirical validity of our method.

By Mann-Witney U-criterion the differences in values of all components of readiness for innovation activity in pedagogical staffs with high and medium level

Table 1: Distribution of schools by indicator of potential innovation activity

Level	Orientation for changes	Moral readiness for innovation activity	Positive perception of conditions for innovation activity
High	0	1	12
Medium	17	28	17
Low	12	0	0

Table 2: Correlation of potential and real innovation activity

Potential innovation activity level	Potential innovation activity index	Innovation activity index
Medium	0,62	0,39
High	0,72	0,49

Table 3: Average group values of innovation activity and potential innovation activity in groups with different types of socio-psychological structure

Group code	Innovation activity	Potential innovation activity
HHH	0,62	1
MMM	0,37	0,62
LLL	0,28	0,25

of readiness for innovation activity. The differences between pedagogical staffs with high and medium level of readiness for innovation activity were in the level of motivation level (positive perception of innovation activity conditions) ($p<0,01$), in the level of orientation to changes of educational system of school ($p<0,05$), in the level of moral readiness for innovation activity ($p<0,05$).

Spearman's correlation coefficient demonstrated close relationship between total values of RIA and innovation activity ($r=0,73$). Therefore results obtained by RIA method and differences in innovation activity of pedagogical staffs are not random.

Mann-Witney U-criterion was equal to 29, when innovation activity was compared in groups with high and medium level of readiness for innovation activity. This value of the criterion is less than critical value for significance level of 0,05.

Pearson correlation coefficient demonstrated close relationship between total value of readiness for innovation activity and external criterion data, obtained by means of expert estimates: $r_{empirical}=0,78$; $r_{critical(0,001)}=0,579$; when $n=29$.

So, differences in estimates of potential innovation activity made by RIA method are complied with real differences in innovation activity of schools which proves empirical validity of this method.

CONCLUSION

Built by us model of pedagogical staff as subject of innovation activity has shown that estimates of potential innovation activity of pedagogical staffs correspond to their real activity in implementation of innovations.

Developed by us 3-component model of potential innovation activity and tools for its evaluation are able to serve as reliable mean of analysis of ability of pedagogical staffs to participate actively in solution of school development tasks and designing development programs.

Inference. Experimental testing of proposed model demonstrated:

- Differences in potential innovation activity of staffs determined as the function of their orientation to changes, moral readiness and positive perception of innovation activity conditions have statistically-significant correlatation with real activity of a pedagogical staff's members in solving tasks of school development;
- The highest innovation activity was manifested by teachers who critically assess the state of existing educational system in schools, who are ready to take responsibility for solution of tasks of school development and positively perceive existing conditions providing for participation in innovation activity.

REFERENCES

1. Bespalko, V.P., 1995. Pedagogics and educational advanced technologies. Moscow: the Professional Education Institute of Russian Ministry of Education, pp: 336. (in Russian)
2. De Kaluve, L., E. Marks and M. Petry, 1993. School development: models and changers. Translation from English. Kaluga: Kaluga Sociology Institute, pp: 239.
3. Lazarev, V.S., 2008. Innovations management in schools. Moscow: The Center of Pedagogical Education, pp: 352. (in Russian)
4. Potashnik, M.M., 2002. Russian Quality of education: problems and methods of management. Moscow: Pedagogical Society of Russia, pp: 352. (in Russian)

5. Greenwood, J.D., 2003. Social facts, social groups and social explanation. Nous. Bloomington, 37(1): 93-112.
6. Murphy, I., 1990. Helping teachers prepare to work in restructured schools. Journal of Teacher Education, 41(4): 50-56.
7. Angelovsky, K., 1991. Pedagogical stuff and innovations: Instructor's manual. Translation from Macedonian. Moscow: Prosveschenie, pp: 159. (in Russian)
8 Gorenkov, E.M., 2002. Developmental and developing school establishing. Theory and practice. Astrahan: Astrahan State Pedagogical Institute, pp: 169. (in Russian).
9. Polyakov, S.D., 2007. Innovations in pedagogics: from idea to practice. Moscow: Pedagogical Search Center, pp: 176. (in Russian)
10. Slastyonin, V.A. and L.S. Podymova, 1997. Pedagogics: innovation activity. Moscow: “Magistr” Publishing House, pp: 224. (in Russian)
11. Khomeriky, O.G. and M.M. Potashnik, 1995. School development management. Eds. by Potashnik, M.M. and Lazarev, V.S. Moscow: New school, pp: 63. (in Russian).
12. Yusufbekova, N.R., 1991. General basics of pedagogical innovation activity: theory of innovation activity in education development experience. Moscow, pp: 91. (in Russian).
13. Janson, U., 2001. Togetherness and Diversity in Pre-school Play. International Journal of Early Years Education, 9(2): 135-143.
14. Arlamov, A.A., 1985. Conditions and efficiency criteria of pedagogics achievements to the school educational process implementation. PhD thesis, Moscow. (in Russian).
15. Zhuravlev, A.L., 2005. Psychology of Collaborative Activities. Moscow: the Institute of Psychology, Russian Academy of Sciences, pp: 640. (in Russian).
16. Martirosyan, B.P., 2003. School innovation activity evaluation. Moscow: Sport Academ Press Publishing House, pp: 276. (in Russian).
17. Arrow, H., M. Poole, K. Henry, S. Wheelan and R. Moreland, 2004. Time, Change and Development: The Temporal Perspective on Groups. Small Group Research, 35(1): 73-105.
18. West, M.A. and N.R. Anderson, 1996. Innovation in top management teams. Journal of Applied Psychology, 81(6): 680-693.
19. Zaltman, G., R. Duncan and J. Holbeck, 1973. Innovations and Organizations. N.Y.
20. Cattel, R.B., 1948. Concepts and methods in the measurement of group syntality. Psychol. Review, pp: 55.
21. Guzzo, R.A. and M.W. Dickson, 1996. Teams in organizations Resent research on performance and effectiveness. Annual Review of Psychology, 47: 307-338.
22. West, M.A. and N.R. Anderson, 1996. Innovation in top management teams. Journal of Applied Psychology, 81(6): 680-693.
23. Leontiev, A.N., 2004. Activity. Consciousness. Personality. Moscow: Sense; “Academy” Publishing Center, pp: 352. (in Russian).
24. Psychological theory of a collective, 1979. Ed., Petrovsky, A.V. Moscow: Pedagogy, pp: 239. (in Russian)
25. Lazarev, V. and T. Razuvaeva, 2009. Psychological readiness of pedagogical stuff to the innovation activity. Surgut: RIO SurGPU, pp: 195. (in Russian).