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Teachers' Professional Development: The Components of Achievement Motivation

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Abstract

The article is devoted to the study of teachers' professional motivation. The effectiveness and success of pedagogical tasks are determined by a creative, proactive approach to work and affects both the nature and quality of work performance. In the study, we consider the motivation of teachers and discuss the significance and place of achievement motivation in relation to the effectiveness of performing professional tasks. The teachers' achievement motivation was studied as an internal factor and a predictor of professional achievements. The aim of the research is to identify the main components of achievement motivation and to reveal the nature of correlation of these components with the general level of teachers' professional motivation. As a hypothesis of the study, it was suggested that professional success, productivity and a high quality of life are determined by an individual disposition and teacher needs. The study set out to conduct a comparative analysis of the motivation indicators in two groups of educators who teach humanities and natural science subjects. It was determined that the teachers' achievement motivation is based on the need for success/avoidance of failure, self-respect, recognition, and prestige. The analysis of value, emotional, behavioral, and cognitive components of the teachers' achievement motivation was conducted.

Keywords: teacher disposition; professional motivation; achievement motivation; teaching effectiveness.

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Introduction

There are a substantial number of studies on achievement motivation. Research on motivation in various areas of activity, i.e. professional, scientific, educational, are of particular importance (Steers, Mowday & Shapiro, 2004). It determines a creative and proactive attitude to a problem and affects both the nature and quality of work (Schunk, 1991). The phenomenon of achievement motivation has been studied by many researchers who described predictors of achievement motivation applying different approaches. A great deal of attention was paid to the issue in cognitive research: B. Weiner's attribution theory (1971), A. Bandura's theory of self-efficacy (1986), B.F. Skinner's behavioral theory (1953). The authors of a cognitive-affective approach considered the achievement motivation in relation to different socio-psychological phenomena: expectancy-value theory by J. Atkinson (1957, 1964), J. Eccles (1983, 2002); a social cognitive approach by C. Dweck (1986, 1988); E. Skinner's perceived control theory (1989); motivational and emotional controls of cognition by H.A. Simon (1967); H. Heckhausen's cognitive model (1991, 2008). In the humanistic approach, the ideas of self-actualization and personal fulfillment were of great interest in the psychology of achievement: A. Maslow's hierarchy of needs (1954, 1971, 1998); D. McClelland's theory of needs (1953, 1961, 1971); an approach of studying the volitional nature of motivation (Güss, Burger & Dörner, 2017). In Russian psychology, the study of achievement motivation is based on the analysis of activities that are characterized by purposefulness (Leontiev, 1978, 2012, 2013). Some works are based on the concept of need (Ilyin, 2011). There are studies examining a personal level of aspiration. Within the framework of a systems approach, system-procedural and dynamic components of achievement motivation were identified. Motivation is based on anticipation mechanisms and an ability to prevent forthcoming events (Akhmetzyanova, 2016; Nichiporenko & Mendelevich, 2006). Being a functional system combining affective and cognitive processes, achievement motivation regulates activities in the achievement of its full implementation.

Purpose and objectives of the study

The purpose of the study is to identify the main components of achievement motivation and to reveal the correlation of these components with the general level of teachers' professional motivation. It was suggested that professional success, productivity and a high quality of life are determined by an individual disposition and teacher needs. The research is aimed at conducting a comparative analysis of the motivation indicators in two groups of teachers who teach humanities and natural science subjects.

The objectives of the study:

- 1) To examine the content of teachers' professional motivation.
- 2) To examine the emotional component of teachers' achievement motivation.
- 3) To examine the value component of teachers' achievement motivation.
- 4) To examine the behavioral component of teachers' achievement motivation.
- 5) To examine the cognitive component of teachers' achievement motivation.
- 6) To examine teacher needs.

Literature review

Today scholars pay close attention to the role of achievement motivation in teachers' professional

activity (Watt & Richardson, 2007). The relevance of research on the teachers' achievement motivation is also justified by intensive introduction of new educational technologies, which sets out new requirements for school teachers (Jesus & Lens, 2005; Neto, 2015). A teacher should be a highly qualified specialist who is competitive in the labor market, competent in the chosen field and interested in related areas, ready for continuous professional development, and flexible professionally and socially (Wayne, 2008). To be successful, teachers must have an appropriate motivation to meet new standards (Ciani, Summers & Easter, 2008). The achievement motivation based on the need for self-improvement is also an integral quality of an innovative educator (Schieb & Karabenick, 2011). It is a prerequisite for successful implementation of innovative teaching and a predictor of such abilities as an ability to make prompt decisions, take certain risks, successfully resolve conflicts arising from the introduction of innovations, and remove innovative barriers (Deci, Vallerand, Pelletier & Ryan, 1991). Karaseva, Pruulmann-Vengerfeldt and Siibak, (2018) considered the structure of professional motivation and its role with regard to factors influencing effective teaching. One of the research areas focuses on the achievement motivation in relation to various phenomena: affiliation motive and self-acceptance, correlation of which is a factor of teachers' orientation to different models of pedagogical interaction (Han, Yin & Boylan, 2016). Psychological features of teachers' professional motivation with regard to various external factors, namely teaching experience, didactic systems, motivation strategies, were revealed (Hardre & Sullivan, 2008). However, this topic is considered to be insufficiently developed since existing studies examine the notion of achievement motivation as a generalized indicator, not fully revealing its content, characteristics and peculiarities in relation to teachers in general, as well as teachers of different specializations (Deci, Vallerand, Pelletier & Ryan, 1991).

Methodology

The review of psychological and pedagogical literature, as well as pedagogical practice, allowed us to note the following contradiction: the problem of achievement motivation with respect to teaching specializations is not sufficiently studied, especially in terms of the content, which constitutes the study's theoretical significance. The motivation for achievement was not considered with regard to the need sphere. Hence, the research was concentrated on this issue. The study was guided by the following question:

1) What are specific features of the teachers' achievement motivation in connection with their specializations?

The study builds on Ehlers' diagnosis of personality on achievement motivation, Zamfir's motivation of professional activity amended by Rean, a self-relationship questionnaire by Stolin, a purpose-in-life test (Crumbaugh & Maholic, 1964, 1968), a volitional self-regulation test (Zverkov & Eidman), and Rotter's internal-external locus of control scale. A semantic differential was developed to investigate the needs of teachers. The methods for statistical processing of empirical data included: analysis of differences (t-test), factor analysis, and Pearson correlation analysis.

The total sample size was 120 educators (women and men) - 60 teachers of the humanities subjects and 60 teachers of natural science disciplines. The average age of participants was 28-40 years.

In our study, we based our theoretical assumptions on the components of achievement motivation and the needs theories of Maslow, Murray and McClelland. As a result, we specified the constituent elements of achievement motivation: cognitive, value, emotional and behavioral components and needs that affect achievement motivation. We also examined the professional motivation of pedagogical activity.

Results and Discussions

1. Analysing the personality on achievement motivation (method by T. Ehlers), the received answers show a general tendency ($t = 0.72$). However, most humanities teachers opted to choose a maximum score that corresponds to a greater severity of one or another characteristic. Taking into account subjective beliefs about the probability of personal success and the complexity of a task facing an individual, one can say that the humanities teachers tend to be stricter towards themselves than to other people. They experience some dissatisfaction with themselves for refusing difficult assignments. They do not also have the habit of postponing business. Teachers of natural science subjects are quite demanding of themselves and set a high value on the completed work, trying to do it as best as possible.

Considering such a criterion as level of significance and a desire to support and raise self-esteem, it should be mentioned that teachers of both specializations are inclined to show zeal. Praise to a greater extent contributes to the success than blame. Teachers of both specializations are prone to rely on themselves, and professional success is attributed to them. However, it should be noted that in a team with hardworking members they feel that they are capable of their own achievements and it is easier for them to build relationships with such people. The humanities teachers have a moderately high level of achievement motivation (43.3%), which indicates adequate beliefs about their self-esteem. They are oriented towards success and set themselves achievable tasks gradually increasing the degree of complexity. Teachers of natural science subjects have an average level of motivation for success (36.7%). Some educators have a moderately high level (30%). A very high level of motivation for success is observed by 16.7% and 13.3% of teachers. They can brace themselves and focus on the realization of goals. They tend to plan their future. However, they are also inclined to choose tasks with a really high degree of complexity that may not be fulfilled. The low level of motivation allows describing teachers who are not inclined to undertake challenging tasks. Such people rely on external help and they are disposed to ascribe more success to their colleagues and external factors (20% of respondents in each group).

2. The analysis of data on internal motivation, external positive motivation, and external negative motivation (Zamfir's motivation of professional activity amended by Rean) demonstrated that there were significant differences between internal motivation and external positive motivation ($t = 1.9$; $t = 2.4$). The external positive motivation in educators running natural science courses is higher than in the humanities teachers. It is conditioned by external circumstances based on positive incentives, such as a need for social prestige and respect from others. Internal motivation is mostly inherent in the humanities teachers than in colleagues teaching natural science subjects. For the humanities specialists, their activity including a desire for promotion, satisfaction with the process itself and the result, an opportunity of complete self-fulfillment in the profession is more important. There were no differences in relation to internal negative motivation ($t = 1.1$). This fact suggests that the internal negative motivation, which includes the conditionality of external negative circumstances, a desire to avoid criticism from senior managers or colleagues, a desire to avoid possible punishments or troubles, is expressed to the same extent. In addition, external positive motives, which are manifested to a greater extent as compared to external negative ones, are more effective and desirable for teachers of both specializations.

Table 1. Professional Motivation Results

Indicators of Professional Motivation	Teachers of Humanities Subjects, average value	Teachers of Natural Science Subjects, average value
Internal Motivation	4	3.8
External Positive Motivation	3.1	3.5
External Negative Motivation	3.1	3.4

Based on the research results, we were able to determine the motivational complex of teachers. The overwhelming majority of the humanities and natural science teachers have an optimal motivation. Thus, $IM > EPM > ENM$ or $IM = EPM > ENM$. The high internal and external positive motivation and low external negative suggest that the professional motivation of all participants is optimal. This enables us to state about emotional stability, satisfaction with the chosen profession and the fact that teachers are motivated by the pedagogical activity and the desire to achieve certain results in it. The non-optimal type of motivational complex is expressed as $ENM > EPM > IM$. However, it is important to take into account the fact that external negative motivation is not much higher than external positive and internal ones. The difference ranges from 0.2 to 1. Therefore, it cannot be said that the non-optimal complex refers to the negative type, when the activity of teachers is stipulated only by the motives of avoidance and censure, prevailing over the motives associated with the value of teaching, and also on external positive motivation. Teachers of both groups have an optimal type of professional motivation (83% and 66%).

3. We studied the emotional component using Stolin's self-relationship questionnaire. There were no significant differences in the self-attitude of teachers of both groups ($t = 0.2; 0.02; 0.8; 0.7; 1.1$). All participants have the feeling of a positive global self-relationship: an internally undifferentiated sense of identity, self-esteem, internal consistency, self-understanding, and self-confidence. This refers to the aspect of self-relationship that emotionally and meaningfully unites faith in one's own strengths, abilities, energy, independence, assessment of one's capabilities, control over one's own life and self-consistency, self-conception.

Table 2. Self-Relation Results

Indicators of Self-Relation	Teachers of Humanities Subjects, percentage of subjects	Teachers of Natural Science Subjects, percentage of subjects
Global Self-Relation	74	72
Self-Esteem	73	73
Self-Sympathy	71	77
Self-Interest	60	65
Expected Attitudes from Others	78	72

The study on purpose-in-life orientations of teachers allowed examining the value-based component of achievement motivation. The purpose-in-life test is developed on the basis of the theory of need for meaning and logotherapy of Frankl "Purpose in life", which is defined as rueful feelings of an individual on the ontological significance of his or her life.

Table 3. Purpose-in-Life Orientations Results

Purpose-in-Life Orientations	Teachers of Humanitarian Subjects, average value	Teachers of Natural Science Subjects, average value
Goals in Life	33.8	32.4
Life Process	31.9	33.4
Result of Life	27.4	26.5
Locus of Self-Control	21	22
Locus of Life Control	29.7	31.2
Meaningfulness of Life	102.7	105.5

There were no significant differences in relation to Purpose-in-Life orientations in the compared groups of participants. Teachers of both groups have clear life goals and intentions, formed value-based views that give the life meaning and direction. They believe that the past and the present are worth-while; adhere to the beliefs that act as the sources of goals in life; have intentions, value-based views and goals from the standpoint of time.

The answers of most respondents on the scale of life process, interest and emotional saturation allow us to note the following. Teachers are full of energy. They consider their life interesting, emotionally saturated and full. They are characterized by low emotional tension, high emotional stability, low anxiety, and psychological comfort. However, it should be mentioned that some teachers in the compared groups (about the same percentage) have some dissatisfaction with their daily lives.

The results on the Result of Life scale make it possible to characterize teachers of both specializations as individuals who positively assess the past period of life. Such peculiarities of attitude towards the life as determination, perseverance aimed at achieving the goals, consistency between future goals and actually achieved goals were singled out; positive assessment of one's own qualities and actions.

Teachers consider themselves strong enough to control all events in their lives and have sufficient freedom of choice. They are convinced that they have achieved or are able to achieve the goals that they consider important for themselves.

In this sample, the life of teachers is considered meaningful, because they have revealed the existence of goals, satisfaction with life events and interest, confidence in their own ability to set goals, choose tasks, and achieve the desired results. There is a clear correlation of goals with the future, emotional saturation with the present, and satisfaction with the obtained result in the past. In this case, the correspondence between these indicators is revealed, since all these scales have a medium or high severity. The formed idea of the meaning of life or its absence is the basis for the choice of educators when making decisions in various life situations, including the sphere of professional achievements.

We studied the behavioral component applying a volitional self-regulation test (Zverkov & Eidman). In general terms, the level of strong-willed self-regulation is a measure of mastering one's own behavior in various situations, an ability to consciously control one's actions, states, and motivations. There is a general trend in the distribution of results between the two groups of participants, but one can note that these indicators are a bit higher among the natural science teachers.

Table 4. Self-Regulation Results

Indicators of Self-Regulation	Teachers of Humanities Subjects, average value	Teachers of Natural Science Subjects, average value
General Index of Volitional Self-Regulation	14	13.3
Persistence	9.7	8.2
Self-Control	7.4	6.3

Significant differences on the persistence and self-control subscales were revealed ($t = 1.9$; $t = 2.4$). Most teachers in both groups can be described as emotionally mature, active and independent. They are distinguished by calmness, self-confidence, stability of intentions, realism of views, and a developed sense of one's own duty. They reflect personal motives, systematically realize their intentions, know how to distribute efforts and are able to control their actions, have a pronounced socially positive orientation.

A low level of volitional self-regulation (20%) indicates that these teachers are characterized by sensitivity, some emotional instability, vulnerability and insecurity. In this case, reflexivity is low. Such educators are characterized by impulsiveness and instability of intentions. This can be associated with both immaturity and a pronounced sophistication of nature, not supported reflection and self-control abilities.

The perseverance and self-possession are more expressed in teachers of the natural science disciplines than in the humanities teachers. The former group of teachers is more pedantic and focused on their work. The self-control in the sphere of interpersonal relations is expressed approximately equally. The difference in the self-control manifestation lies in the fact that natural science instructors do not mainly complicate the work by understanding that it is necessary, at any costs, to meet a deadline unlike the humanities teachers. The latter express the desire for a constant self-control less. However, teachers in both groups do not have an excessive aspiration for self-control and a conscious limitation of spontaneity. This helps educators avoid internal tension, constant anxiety and fatigue.

The expressed perseverance index makes it possible to characterize the research participants as active, efficient, independent, self-confident, and determined. They have realistic views, a developed sense of their own duty and aspiration to complete the work once it is started. Such teachers comply with social norms and control their behavior. The self-control result of teachers in both groups reflects the level of arbitrary control over emotional reactions and states. This fact makes it possible to characterize teachers as emotionally stable and self-confident in various situations. They are also characterized by inner calmness, self-confidence and readiness to learn new things.

Low values on the scale of persistence indicate an increased lability, uncertainty and impulsiveness that can lead to inconsistency and even diffuse behavior of teachers. Low values on the self-control scale are indicative of spontaneity and impulsiveness, combined with resentment and preference for traditional views it protects a person from intense feelings and internal conflicts.

Rotter's Internal-External Locus of Control Scale was used to study the cognitive component of achievement motivation. The number of teachers with an internal and external locus of control is almost the same. The verification of results for significant differences was not confirmed ($t = 0.2$). The obtained data on the locus of control in interpersonal relations and global world events were determined more by the external locus of control. However, the achievements and results of professional activity were attributed to

a person's hard work, rejecting a mere coincidence. In general, it is possible to characterize all participants as persons with an internal locus of control. They believe that their activity depends on their competence, purposefulness, their level of abilities, and is a logical result of goal-oriented activity and initiative.

4. Within the framework of this study a semantic differential has been developed. Seventy-one statements that characterize the achievement motivation represented in well-known theories were selected. The semantic differential results were subjected to the factor analysis, in the course of which all statements were divided into five groups: need for success/avoidance of failures; need for self-actualization; need for competition and income; need for acceptance/prestige; need for esteem/approval.

Table 5. Teacher Needs Results

Needs	Teachers of Humanities Subjects, average value	Teachers of Natural Science Subjects, average value
Need for Success / Avoidance of Failures	4.4	4.5
Need for Self-Actualization	4.4	4.6
Need for Competition and Income	4.1	4
Need for Acceptance / Prestige	4.5	4.8
Need for Esteem / Approval	4.3	4.2

The needs that underlie professional activity and the achievement of success do not radically differ in the two groups of teachers. They are almost equally determinative. There were no differences in the second, third and fifth factors ($t = 1.6; 0.7; 1.1$). These needs are equally expressed by the humanities and natural science teachers. This result allows us to characterize teachers as seeking to maximize their abilities. They believe that they can apply all their capabilities realizing all the potential in the chosen profession. Teachers have a positive attitude towards healthy competition. They feel confident enough even if they have to face intense competition. They can also work quite smoothly even if the results of their work are constantly compared with the results of their colleagues. Teachers also expressed a need for earning income. Since high salary is an important criterion for them, they pay attention to their financial well-being. But we cannot say that a financial aspect of the profession is a decisive factor for them. Teachers are characterized by the need to evaluate and approve their actions. It is necessary to timely assess the work and achievements for further steps. Thus, we can say that these needs are the basis for the professional work of teachers from both groups.

The first and fourth factors revealed significant differences ($t = 1.2; t = 2.3$). These needs are more expressed in the group of natural science teachers than in the group of humanities teachers. Teachers of natural science courses can be described as teachers with a more pronounced orientation to success and an optimistic outlook on life. Past failures are no longer an obstacle for them to achieve success, and the quality of work and responsibility is not reduced even if the successful outcome is not guaranteed in the future.

The humanities teachers are also oriented to success. They do not give up trying if they failed to complete a task on the first try. However, their productivity and confidence in their abilities increase if they have succeeded previous time. Teachers of both groups view the tasks as an incentive to move forward.

They react to obstacles with optimism and energy, relying on their abilities and believing that success largely depends on them. The difference between the mean values was due to the fact that the teachers of natural science disciplines chose the maximum score when answering the question about semantic differential. The natural science teachers are more motivated by the need for prestige and recognition than their colleagues. The humanities teachers are less contingent on the opinions of colleagues in terms of work performance. They believe that the professional reputation is more dependent on the results of their own work.

Conclusion

1. The achievement motivation of teachers corresponds to a moderately high level. Teachers cope with complex tasks and focus on the implementation of their goals. Achievement motivation is a prerequisite for the successful implementation of innovative teaching. It is a predictor of the ability to make prompt decisions, take certain risks, successfully resolve conflicts arising from the introduction of innovations, and remove innovative barriers 2. It is revealed that the professional motivation of natural science teachers is mainly conditioned by external positive circumstances: earnings, the desire for career growth and the need for social prestige and respect from others. The humanities teachers are characterized by internal motivation: a great importance of pedagogical activity, satisfaction with the process itself and the work outcomes, and an opportunity of self-realization in the activity. 3. When studying the emotional component of achievement motivation, it is revealed that teachers have a developed sense of positive self-attitude. The study on the value component of achievement motivation has shown sufficient meaningfulness of teachers' life and satisfaction with life processes, effective goal-setting in the immediate and long-term perspective. Specific features of persistence and self-control indicators within the behavioral component were revealed. Natural science teachers show a high level of emotional stability. The humanities educators are characterized by an average level of self-control; strict time limits may reduce their self-regulation. The study on the cognitive component of achievement motivation made it possible to establish that the teachers tend to have the internal locus of control. 4. A semantic differential was developed to identify the needs of teachers. The findings demonstrate that the needs for success/avoidance of failures, self-respect, recognition, and prestige determine the achievement motivation of teachers. Teachers are more success-oriented. It is not typical for them to avoid failures. However, among the factors affecting professional reputation they highlight not only the nature of activity and productivity, but also interpersonal relations.

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