REMEDIAL WORK AS A MEANS OF DEVELOPING POSITIVE LEARNING MOTIVATION OF ADOLESCENTS

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Abstract

The topicality of this study is determined by the problem of gaining knowledge and developing positive learning motivation among 13 years old teenagers with low intellectual activity. Since learning motivation and intellectual development are interrelated, the remedial programme, which fosters the increase of teenager's intellectual activity, may become one of the factors influencing the development of learning motivation. The authors assume that specially developed remedial programme for pupils with low intellectual activity indirectly reforms the hierarchy of motives in the structure of learning motivation.
Taking into account that all children are different and that intellectual development and learning-cognitive motivation are interrelated, during the research 290 pupils in Latvia have been examined by the use of the GIT method (Group Intellectual Test), which consists of 7 subtests. Out of the all sample group the experiment team chose pupils (101) who had shown the lowest results for the test tasks and studied the peculiarities of their learning motivation. These pupils were divided into control group (56) and experimental group (45), subsequently dividing the latter group into three subgroups. Then two experimental stages were processed: one before the remedial work and one afterwards. The level of intellectual development and peculiarities of learning motivation were diagnosed. It was concluded that remedial work stimulates cogitation, enriches vocabulary and reforms the hierarchy of motives in the structure of learning motivation.
Key words: *adolescent, learning motivation, the level of intellectual development, remedial work.*

Introduction

The variety of existing approaches to learning – developmental (Davydov, 1996), tracking in elementary and secondary schooling (Goldberg, 1966; Shakhmaev, 1989; Osmolovskaya, 2005), heuristic (Montessori, 1949; Kahneman, Tversky, & Slovic, 1982; Хуторской, 2003) – is often formal in nature, i.e. explaining new material, correction of mistakes, testing knowledge. Therefore pupils acquire study material passively under supervision of teachers and their learning motivation remains unformed (Bozhovich, 2009).

As a result, independence and initiative, which represent the basis of learning motivation, also remain unformed among pupils and their willingness to study slowly disappears. This leads to the formation of attitude of internal alienation to school and lack of willingness to attend it (Bozhovich, 2009).

Since the emotional-motivational life of adolescents often remains beyond limits of organized pedagogical process, in this research personality is understood as a whole, where affect and intellect are inseparably interdependent (Vygotsky, 1991).

The core of personality consists of the development of volitional sphere, which in its turn

unites affect and intellect. Volitional activity is both meaning and initiative, which always have personal implication (Vygotsky, 1982).

In adolescence, motivational meaning of self-esteem increases, but interest to learning influences the development of personality in general. That is why interest is one of major factors in forming positive learning motivation (Hekhauzen, 1986; Markova, Matis & Orlov, 1990).

In order to influence the positive dynamics of changing motivational profiles of adolescents purposefully, one has to take into account the peculiarities of thinking and intellectual development of children in this particular age. We understand the intellectual development as a complex dynamic system of quantitative and qualitative transformations, which occur in adolescent's individual mental activity (Vygotsky, 1983). Intellectual development is characterized by the combination of knowledge and skills of mental activities. Thinking as a process is associated with motivation and is regulated by affective sphere of personality (Vygotsky, 1999). In other words, thinking can be developed in the course of schooling.

Since learning motivation and intellectual development are interrelated, when exerting influence on one personality sphere we inevitably influence the other. The success of an adolescent in the learning process contributes to the formation of the intellectual activity and the desire to participate in learning activities and implement its quality. In this connection the topicality of the learning motivation appears for the school and the education system as a whole.

Consequently, remedial work, which promotes intellectual activity of pupils, may become one of the factors of purposeful influence on developing positive learning motivation.

The aim of this study is to examine the influence of remedial work as a method to form positive learning motivation among adolescents.

Methodology of Research

General Background of Research

The study was conducted in two stages: ascertaining and transformational.

Taking into account that all pupils are different and that intellectual development and learning motivation are interrelated, the ascertaining stage was aimed to form control and experimental groups of participants and diagnose the peculiarities of their intellectual development and learning motivation.

Sample of Research

In accordance with the defined task, 290 adolescents of the age of 13 were examined. The number of participants is based on the number of pupils attending the schools on the day the experiment was carried out. The quantity of successfully completed subtests' tasks differs among the participants: the maximum amount of such tasks was 130, and minimum – 31. Therefore, 101 participants, who had shown lowest results were chosen from the general sample, then subdivided into control group (56 pupils) and experimental group (45 pupils), so that both experimental and control groups consisted of adolescents of approximately similar level of intellectual development. The remedial group consisting of 10-15 pupils was formed in order to apply individual approach and successfully implement intervention (Borisova & Loginova, 1993). For that reason, the experimental group was then dividend further into three subgroups with 15 participants in each of them.

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Instrument and Procedures

The level of intellectual development was diagnosed by Josef Vana's method "Vana Intelligence Test" (VIT) (Svoboda et. al, 2004), which in Latvia is known as "Group Intellectual Test" (GIT) (Akimova, Borisova, Gurevich, Kozlova & Loginova, 1993).

GIT consists of 7 subtests: following instructions - (1), arithmetical tasks - (2), completing unfinished sentences - (3), defining similarities and differences in concepts - (4), numbers' series - (5), establishing analogies - (6), and symbols - (7). The total amount of tasks in the test is 130, and the time for completing the tasks of each subtest varies between 1.5 and 6 minutes. The acquired results for each subtest were fixed individually, and the analysis was based on the average group result for each of the subtests.

The peculiarities of study motivation in both groups were examined by Margarita Matyukhina's test "Motivational sphere of pupils" (Matyukhina, 1998), which consists of the list of 21 statements. This test defines profile of study motives, i.e., motives of "duty and responsibility" - (1), "self-determination and self-improvement" - (2), "wellbeing" - (3), "prestige" - (4), "avoiding troubles" - (5), "content and process of learning" – (6), "social motives of learning activity" - (7). The participants were asked to range the statements according to their significance. Motives are united into seven triads, and the analysis is based on the average result of each of the triads. The lowest minimum result acquires rank 1, and the highest result – 7. As lower the rank, as more significant the motive is, and vice versa.

Peculiarities of Remedial Work

During the transformative stage of this research the remedial work was carried out to improve mental development and indirect change of adolescents' learning motivation. The work consisted of 30 minutes sessions two times a week with specially selected pupils during one academic year. Three researchers were working rotating shifts with each of the experimental group's subgroups.

A set of exercises was developed to improve mental development; it was used in developmental group to increase vocabulary and develop thinking operations among pupils. Fundamental principles of work in developmental group were: individual approach, game form of classes, friendly relations with pupils, support of any achievement with positive emotional evaluation and development of skills to self-assessment of pupils' activities. In the developmental group an individual approach to a child was applied, i.e. children were active subjects of education and were not attempted to be taught anything against their will. In the beginning of the work entertaining games and exercises based on competition were applied. This implied actualization of the motive of achieving success; later tasks were gradually becoming more complicated.

It may be noted that the indirect influence on participants' learning motivation was also made during the school lessons in general education classes. During the school lessons a teacher was maximally moderate towards pupils attending the developmental group.

Gradually the learning motivation, which was being formed in developmental group, extrapolated also to the school lessons in general education classes.

By the end of remedial work the level of mental development and peculiarities of learning motivation were also diagnosed among research participants.

Data Analysis

The results were analysed by the use of a non-parametric statistical hypothesis test (Mann – Whitney – Wilcoxon, MWW). In order to examine changes in both experimental and

control groups the Wilcoxon matched-pairs signed-rank test was applied. It allows analyzing differences between paired observations, based on their value.

Mann – Whitney test was applied to define the significance of changes between experimental and control groups as independent samples (Corder & Foreman, 2009).

Results of Research

Description of the Results Obtained During the Test GIT

The results of the 1st and 2nd stages of the research in both the control and experimental groups of the GIT test were compared to reveal the effectiveness of the remedial work.

First of all, the results of the 1st and 2nd stages of the research in the control group of the GIT test were compared. Figure 1 represents the results for both research stages for the control group.

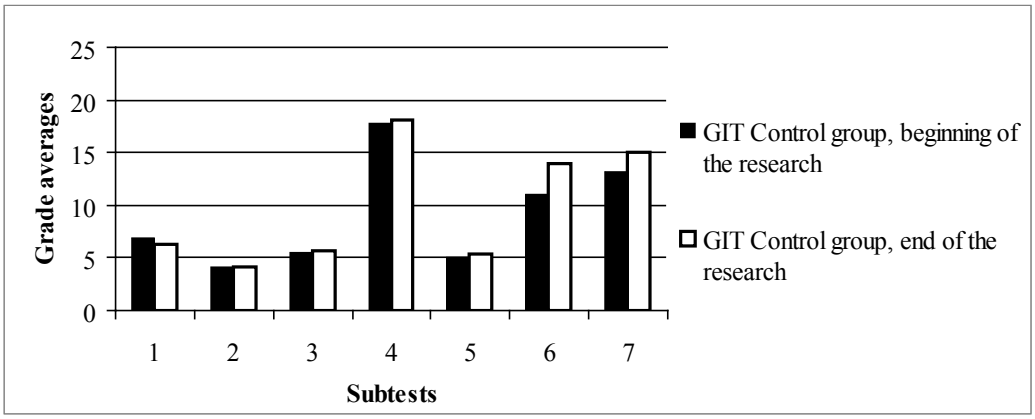

Figure 1: Control group GIT stages 1 and 2 compared.

The Figure 1 shows that the differences between the results for the 1st and 2nd stages are minimal, and the highest dynamic of the differences is observed in the sub-tests 6 and 7. It may be explained by the fact that the pupils got older and their level of thinking has become more abstract, therefore the tasks of creative nature and those containing non-standard elements were carried out more successfully than the traditional tasks, compared with the beginning of the research.

The results for both GIT stages of the experimental group were also subjected to a comparative analysis, as it is displayed in Figure 2.

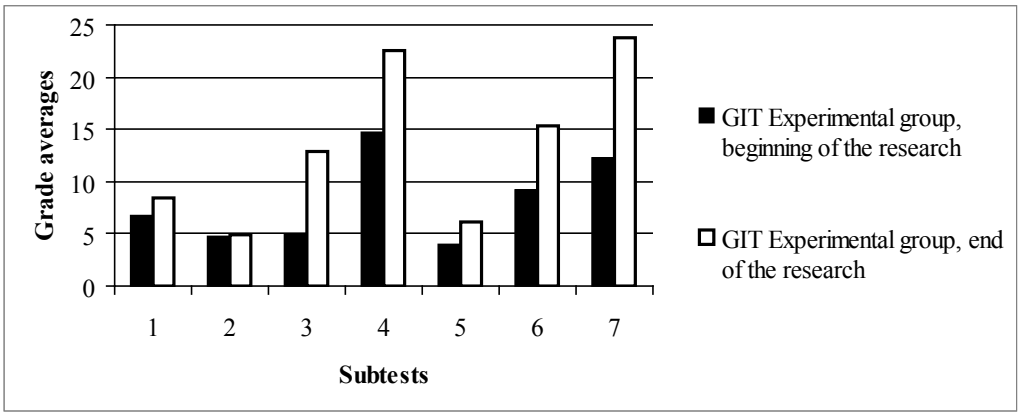

Figure 2: Experimental group GIT stages 1 and 2 compared.

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The Figure 2 shows that the maximal differences are indicated while performing tasks of the subtests 3, 4, 6 and 7, which may be due to the fact that the sessions with the pupils in the experimental group were carried out during one year, improving thinking skills, developing initiative, and motivational sphere, encourage them to overcome difficulties.

Minor differences were found by analyzing the data of the subtests 1 and 5. Obviously, the low results reflect a lack of interest in pupils to the tasks of the traditional type.

The tasks of the subtest 2 showed minimal differences in the dynamics of 1st and 2nd stages, which indicates aborted mathematical thinking.

The results from both stages of the research were subjected to statistical treatment, see Table 1.

Table 1. The statistically significant differences in the levels of intellectual development of the teenagers in the control and experimental groups at the beginning and at the end of the research.

	Group	Mean ± SD	df	Z	p
Beginning of the research	Control group	64.07±7.13	1	1.944	0.052
	Experimental group	56.76±12.66			
End of the research	Control group	68.95±9.78	1	2.292	0.023*
	Experimental group	94.47±12.22			

* $p<0.05$

Thus, the significant differences were detected between the results of the control and experimental groups after the 2nd stage of the research.

Description of the Results Obtained During the Test of Matyukhina „Exploring the Motivational Sphere of the Students'"

Dynamics of the motivational profiles' change was determined by comparing the results of two slices in the control and experimental groups.

The results for the 2nd stage of the research of the control group were compared with those of the same group on the 1st stage. The comparable averages are displayed on the Figure 3.

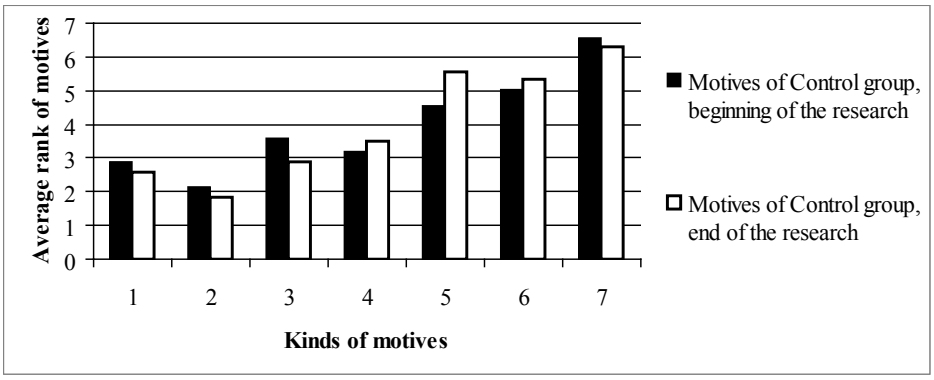

Figure 3: Motivational profiles in the control group, stages 1 and 2.

It can be seen from the figure that significant changes in the motivational sphere of the

students were not detected. The particular focus on the motives "avoiding troubles" (5) and "content and process of learning" (6) attracts attention.

The results for the dynamics of motivational sphere change in the experimental group are displayed in Figure 4.

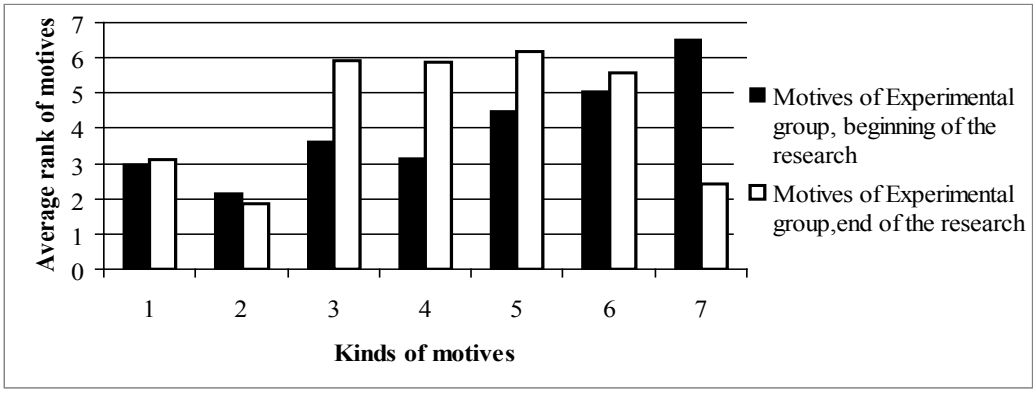

Figure 4: Motivational profiles in the experimental group, stages 1 and 2.

It can be noted that the biggest changes occurred with the motives "wellbeing" (3), „prestige" (4), "avoiding troubles" (5) and "content and process of learning" (6).

The comparison of the motivational profiles in the control and experimental groups after conducting the final stage of the research is displayed in Figure 5.

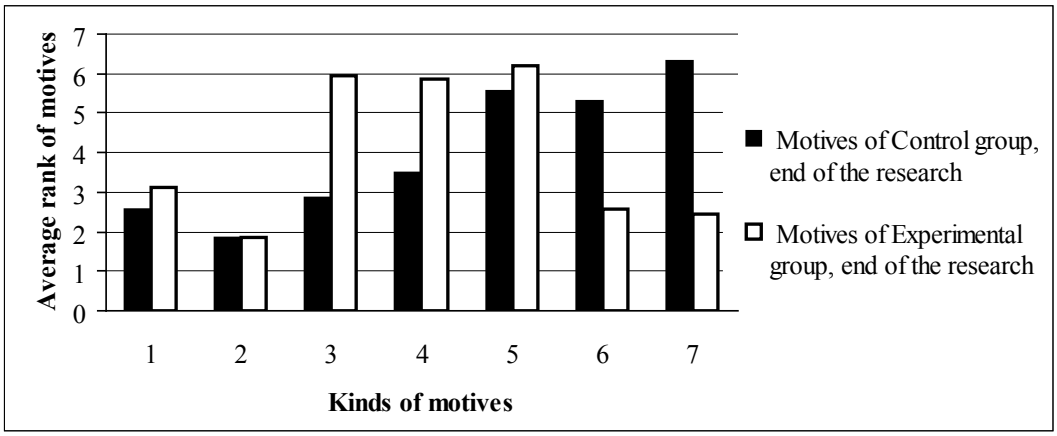

Figure 5: Control and experimental group end results compared.

The diagram on the Figure 5 reflects the differences in the dynamics of the change of the motivation: "wellbeing" (3), "prestige" (4), "the content and process" (6) and "social learning motives of the activity" (7). Other motives have approximately the same dynamics of change in both groups: "duty and responsibility" (1), "self-determination and self-improvement" (2), "avoiding troubles" (5).

The reliability of differences of the motivational profiles and intellectual development of the adolescents were tested by comparing the results in the control and experimental groups on the first and second stages of the research. The results of the statistical treatment can be seen in Table 2.

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Table 2. Comparative Table of the results in control and experimental groups at the beginning and the end of the experiment.

	Control group, the end of research		Experimental group, the end of research	
Kinds of Motives	Z	p	Z	p
(1) duty and responsibility	0.989	0.268	0.778	0.363
(2) self-determination and self-improvement	1.237	0.180	1.367	0.142
(3) wellbeing	1.903	0.047**	5.235	0.001*
(4) prestige	0.758	0.373	5.836	0.001*
(5) avoiding troubles	3.127	0.002*	4.626	0.001*
(6) the content and process of learning	1.432	0.125	5.572	0.001*
(7) social motives of learning activity	1.500	0.112	5.836	0.001*

*p<0.01, **p<0.05

Statistical treatment showed that the significant positive changes occurred only in the experimental group, where the remedial work was carried out.

Discussion

Studies of Albert Bandura and Dale Schunk (Bandura & Schunk, 1981) revealed that the teacher helps pupils to progress in their studies by defining feasible short-term and immediate aims in the process of fulfilling the task. Achievement of the immediate aims or subgoals leads to the satisfaction, which in its turn forms their intrinsic motivation for constant fulfilling of the learning task.

A rhetorical question remains: why do some pupils choose easy aims, and others - difficult? Which motive dominates in the process of choosing the aim? What guidelines does the teacher follow when choosing tasks for a pupil? (Alderman, 1999).

Therefore, first of all, it was agreed that the classes in the experimental group should be formed to meet the cognitive and emotional needs of an adolescent.

In the current study on the formation of the internal learning motivation of the adolescents, the priority was given to the method of elicit curiosity (Lepper & Hodell, 1989). The tactics of the gradual involvement in learning through the game was applied (Borisova & Loginova, 1993), rather than creating disequilibrium for the learners.

The results seem to be corresponding to the well-known studies based on the self-determination theory (Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004; Flink, Bogiano, & Barrett, 1990), which confirmed that stimulation of autonomy and independence of adolescents during the learning process leads to the development of curiosity and the growing interest and need to overcome difficulties, consequently forming a strong learning motivation.

Thus, the remedial work with the children in the experimental group was aimed at helping a child to gain inner freedom. Psychological atmosphere made it possible to manifest personality, has favored the development of the creative abilities and generated their will.

Group work also focused on psychological support of each adolescent. Success depended on how the researcher believed in his/her powers and abilities. It was unacceptable to put a pupil in a situation of an unexpected question and quick response. In order to build the confidence of own forces, the experimenter used the words “clever”, “well done”, “good”, even if the result was far from desirable, because an optimistic mood and mastering the skills of constructive

thinking is an integral part of self-control of one's behaviour (Seligman, 1990).

Offering the adolescents to perform harder tasks contributed to understanding the dynamics of pupils' success. Only then, the complexity of these exercises was gradually increased. In other words, the remedial work holds a balance between the competence of pupils and the difficulty of the achieving the goal - excessively difficult tasks could cause an aversion to the learning, but too easy tasks are insufficient to encourage the development of the learning skills (Lepper & Hodell, 1989).

It is obvious that not all pupils have mastered the concepts, not all have a well developed speech and a rich vocabulary, and not all are equally able to perform mental actions needed to solve test tasks. Therefore, the unequal formation of the thinking processes affects the successful fulfillment of the individual tasks. Even so the remedial work with the adolescents stimulates their intellectual activity.

Conclusions

Pupils with the low intellectual activity have an underdeveloped learning motivation: social motives occupy the highest places in the hierarchy of motives.

The remedial work changes the motivation sphere of the participants: cognitive motives appear on the foreground. Efficiency of the remedial work is also determined by its conducting form: supporting pupils' achievements by the emotional assessment, goodwill, lack of condemnation.

The remedial work with the adolescents increases their intellectual activity.

The remedial work with the intellectually passive adolescents has the mediated influence on their motivational sphere.

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