



Science, Movement and Health, Vol. XVII, ISSUE 2 Supplement, 2017
September 2017, 17 (2, Supplement): 465-469
Original article

A COMPARATIVE STUDY ON THE MANIFESTATION OF DISTRIBUTIVE ATTENTION IN EXPERIENCED TEACHERS AND BACHELOR'S DEGREE STUDENTS

RAȚĂ Bogdan Constantin¹, RAȚĂ Marinela¹

Abstract*

Aim. We considered necessary a study which revealed the difference in the distributive attention between three groups of subjects in the educational system, a difference we consider that it can be reduced in time.

Methods. For this purpose, we used as research subjects a group of 54 adults consisting of 18 1-st-year Bachelor's degree students, 18 Master's Degree students and 18 teachers in the first year of professional reorientation.

Results. The level of attention and the resistance to psychic fatigue is not higher for the students enrolled in the Bachelor program than those in the Master and those in the professional reorientation programs.

Conclusions. The conclusions highlight the existence of differences in the attention level and stamina between the three groups and therefore, the concern for performing a creative and stimulating teaching process.

Keywords: attention, distributive, students, teachers, comparison.

Introduction

Attention together with memory is one of the psychic processes that certify the development of the professional personality and human behaviour. The importance of attention as "a psychic process which ensures selectively the reception and processing of sensory, intellectual and motor information,... by concentration, stability, distribution, volume and focus, ..., conditions the efficiency of learning and of the actual work" (Nicu, 2002) as well as the efficiency in all types of activities. The distributive attention is manifested in a different manner for the young students to experienced teachers. For more information about this, we made use of the "Prague" test developed by the Polytechnic Institute of Prague assessing the distributive / mobile attention, a test presented by Nicoară in 2003.

Taking into account that "filters allowing analysers to sort and select information entering the system according to different dimensions ... is "what we call attention, and the information necessary for the presented task" (Smith, Nolen-Hoeksema, Fredrickson, Loftus, 2005) contribute to the professional training and development, we considered necessary to perform this study in order to reveal the differences in the distributive attention between three groups of subjects in the educational system, which we believe that they can be reduced in time.

In the process of professional training, one of the unwritten objectives is given by the training and development of attention and its distribution as one of the conditions which greatly affect the professional activity and especially its efficiency. Building the awareness capacity of a teacher on the vocational tasks based on the study of "the particularities of the subjects included in the system of professional training and reorientation" (Baranski, 1979) constitutes a pedagogical priority objective. In the process of learning, attention and stamina influences the act of "training the abilities and skills, tools of intellectual work, such as: reading, writing, intellectual calculus, problem solving are acquired, information training tasks are performed" (Macavei, 2001), stimulating and encouraging the communication capacity training of "critical and creative thinking based on the analysis and decision capacity" (Dumitriu, 2003).

Starting from the consideration that "every period of development has psychic features which grow" (Schiopu, 2002) and are formed continuously, we claim that it is necessary to perform an understanding of the predispositions and the level of individual development of the students, knowledge serving to guide the professional training by a teacher and to let a student self-discover the opportunities.

¹ Department of Physical Education and Sports Performance, "Vasile Alecsandri" University of Bacău, 600115, ROMANIA.

Email address: rata.bogdan@ub.ro

Received 31.04.2017/ Accepted 17.05.2017

* the abstract was published in the 17th I.S.C. "Perspectives in Physical Education and Sport" - Ovidius University of Constanta, May 18-20, 2017, Romania



Methods

For this study, conducted during October-December 2016, we used as research *subjects* 18 first-year Bachelor's degree students (aged 19 to 21 years), 18 Master's Degree students (aged 23 to 25 years) and 18 teachers in the first year of professional reorientation (aged 39 to 41 years) and methods such as: bibliographic study, statistical-mathematical processing and graphical representation.

As assessment tool, we chose the Prague distributive attention test, designed by the Polytechnic Institute of Prague assessing the distributive / mobile attention (presented by Nicoara in 2003), a test that requires to focus the subject's attention on several tasks and evaluates the resistance to psychic fatigue. This test implies the existence of a board where a table with several boxes is inserted, each box comprising a number of a large size and one of a smaller size. Separately, there is an answer sheet, which has four rows of numbers representing the large numbers of the table, at random. The task of the subject is to find the numbers in the answer sheet on the board and note down the appropriate number of a

small size. The test is carried out in a standard time of 16 minutes divided into sequences of 4 minutes for each column, with 1-minute pause between columns. The results recorded in each column provide information on the evolution of distribution in time and the fatigue curve.

This test has the advantage of providing a quantity of information gathered in a short period of time for application and it quantitatively and qualitatively assesses the aspects of phenomena, such as fatigue and performance. It has the disadvantage that it requires high concentration due to the short time and the corresponding stress, thus fatigue arising fast. For the Prague distributive attention test, there are partial standards for each of the four stages of application (Table 1.)

The research started from the assumption that the level of attention and resistance to psychic fatigue is higher for the students enrolled in the Bachelor program than for the Master students and those in the professional reorientation program.

Table 1. The results of the Prague distributive attention test (numbers), a test presented by Nicoară D. in his *Lecture Notes* (in Romanian: Note de curs) in 2003, pp. 91-97.

Stage Age /centile	I			II			III			IV			Total			
	13-14	15-16	over 17	over 17	13-14	15-16	over 17									
100	23	26	30	23	23	33	23	24	29	24	26	27	100	80	80	100
90	18	18	23	17	17	22	18	18	23	18	16	22	90	63	67	86
80	15	17	21	15	16	19	16	16	20	15	15	20	80	58	59	73
75	14	16	19	14	15	18	15	15	19	14	14	19	75	55	57	70
70	14	15	18	13	14	17	14	14	18	14	12	18	70	52	55	67
60	13	14	16	12	13	16	13	13	16	13	13	16	60	48	51	62
50	12	13	15	11	12	14	12	12	15	12	12	15	50	45	48	59
40	11	12	14	10	11	13	10	11	13	11	11	14	40	41	45	56
30	10	11	13	9	10	12	9	10	12	10	10	13	30	38	42	50
25	9	10	12	9	9	11	9	9	11	9	10	12	25	36	40	48
20	8	8	11	8	9	11	8	9	11	8	9	11	20	34	37	45
10	7	7	9	7	7	8	7	7	8	6	7	10	10	30	32	40
3	0	0	0	0	0	4	0	2	2	1	1	1	3	0	10	20

Results

The results to the Prague distributive attention test (numbers) submitted by the research subjects (Table 2.) do not correspond to the maximum values during the stages, but they reach the maximum in terms of

centiles. The results of the four stages have been reported to the standard (Table 1.) corresponding to the age of 17, and the overall result was reported also to age.



S	Reorientation					Master					Bachelor				
	I	II	III	IV	C	I	II	III	IV	C	I	II	III	IV	c
1	22	25	25	20	92	23	22	25	25	95	19	17	12	15	63
2	12	25	25	24	86	20	17	25	25	87	21	23	20	20	84
3	21	23	20	20	84	21	23	22	22	88	24	22	23	25	94
4	22	17	17	21	77	22	22	14	14	72	25	25	25	25	100
5	20	18	16	19	73	23	22	24	25	94	18	16	13	15	62
6	19	17	11	15	62	25	25	25	25	100	20	19	15	19	73
7	25	25	25	25	100	21	19	17	20	77	21	18	19	22	70
8	25	25	25	25	100	20	18	15	17	70	21	23	21	20	85
9	21	23	18	22	84	25	25	25	25	100	18	18	14	16	66
10	25	25	21	21	92	23	24	23	22	92	20	19	18	14	71
11	24	21	24	25	94	25	25	25	25	100	20	21	19	15	75
12	20	15	18	21	64	24	24	22	20	90	19	18	16	15	68
13	25	25	25	25	100	25	25	25	25	100	20	18	16	16	70
14	25	25	25	25	100	22	24	20	22	89	22	19	20	18	79
15	25	25	25	24	99	22	23	19	23	87	23	22	22	23	90
16	25	25	25	25	100	18	19	15	16	68	18	19	17	12	66
17	20	12	12	16	66	25	25	25	25	100	19	23	20	21	83
18	24	21	24	24	93	23	21	22	24	90	25	25	25	25	100
M	22.22	21.78	21.17	22.06	87.00	22.61	22.39	21.56	22.22	88.83	20.72	20.28	18.61	18.67	77.72
S	3.28	4.08	4.63	3.08	12.98	2.00	2.54	3.83	3.41	10.33	2.21	2.68	3.73	4.04	11.92
V.M	25	25	25	25	100	25	25	25	25	100	25	25	25	25	100
V.m	12	12	11	15	62	18	18	14	14	68	18	16	12	12	62

S = subjects, P= points, C = centiles

Discussion

The results, “recorded in the four stages of work, allow us to compare the efficiency obtained by each subject in the four stages” (Șchiopu, 2002). This knowledge of efficiency addresses, in particular, to the people working in education, as well as to those who are training to enter this domain, where attention and focus are permanent. Regarding our research, the results recorded by the three groups give us the opportunity to compare the values obtained at the group level and at the level of each subject, and to compare the level of attention and resistance to fatigue occurred in teachers attending a professional reorientation program with that manifested in students enrolled in the Bachelor and Master programs. “The significant pedagogical progress recorded in the development of education undertakes the implementation of a student-centred training pattern” (Cristea, 2003) according to their level and possibilities.

The comparative analysis of the results obtained in each stage (see table no. 2, figure no. 1) allowed us to mention the following cues:

- in the first stage, the distributive attention, according to the arithmetic mean is better in the group of Master students that reached a value of 22.61 points, 0.39 points more than the students from the professional reorientation group (22.22 points) and 1.89 points more than the group of Bachelor students (20.72 points). The maximum value does not exceed 25 points, and the minimum does not fall below 11 points;

- in the second stage, the distributive attention, according to the arithmetic mean is better in the group of Master students that reached a value of 22.39 points, with 0.67 points more than the students from the professional reorientation group (21.78 points) and 2.95 points more than the group of Bachelor students (20.28 points);

- in the third stage, the resistance to the distributive attention has a greater arithmetic mean in the group of Master students (21.56 points), 0.39 points higher than the students from the professional reorientation group (21.19 points) and 2.95 points more than the group of Bachelor students (18.61 points);

- in the fourth stage, the distributive attention has a better arithmetic mean in the group of Master

students that reached a value of 22.22 points, 0.16 points more than the students from the professional reorientation group (22.06 points) and 3.55 points

more than the group of Bachelor students (18.67 points).

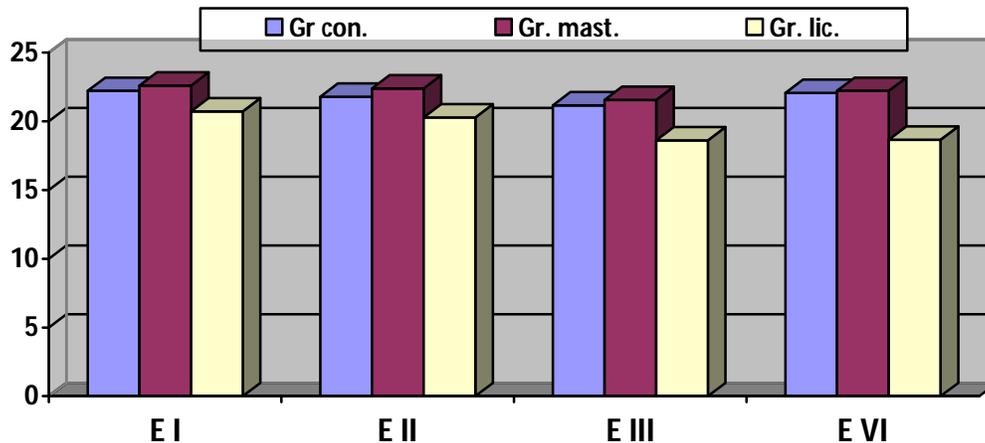


Figure 1 Graphical representation of the average values of the distributive attention from one stage to another

These results emphasize that the students enrolled in the Bachelor's Degree, Master's Degree and professional reorientation programs have a good level of distributive attention, but different from one group to another.

the values obtained in the four stages for the three samples of the study, it can be noted that the arithmetic mean is high. It has higher average values in the group of Master students of 88.83 centiles, lower values in the group of professional reorientation students of 87.00 centiles and even lower in the group of Bachelor students of 77.72 centiles.

Regarding the analysis of the results obtained in total (see table no. 2, figure no. 2), namely the sum of

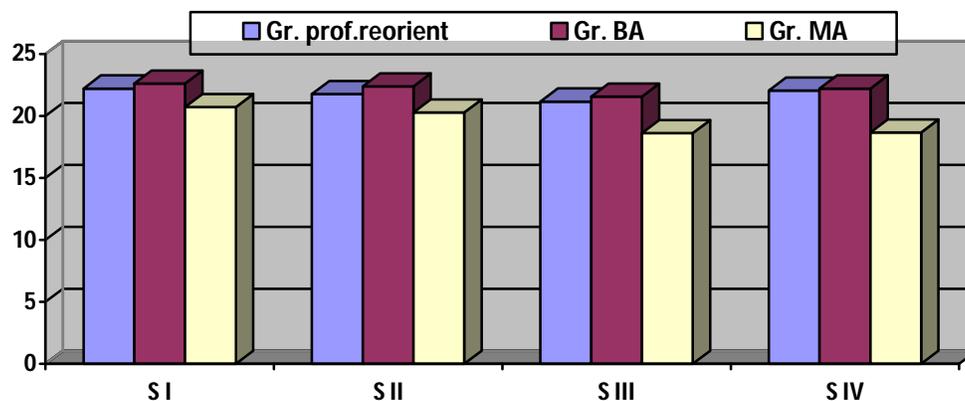


Figure 2 Graphical representation of the average values in centils of the distributive attention from one stage to another

The group result (chart no. 2) shows that the values of the arithmetic mean are higher in the group of Master students than in that of professional reorientation students and even lower in the group of Bachelor students. According to the table no. 2, we

can also notice that 8 students in the professional reorientation program, 6 Master students and 12 Bachelor students present a decreasing level of attention from stage I to IV. The individual result coming from summing up the score obtained for the



entire test allows us to highlight however a high level of distributive attention, in general, and a good fatigue resistance, which is underlined by the fact that only 3 subjects in the group of professional reorientation, 1 subject in the group of Master students and 5 subjects in the group of Bachelor students accumulated a number of centiles below 70. These results also underline the resistance to the psychic fatigue of the subjects investigated.

Conclusions

After analyzing the data, we can draw the following conclusions:

- trying to find out which of the two following skills: attention and resistance to psychic fatigue are more developed in the investigated subjects, we can say that for almost all the subjects, both are in balance;

- comparing the individual data on stages and the overall data for the test, the subjects are resistant to psychic fatigue which is supported by the results summing up the scores obtained for the entire test, but they also have a high level of distributive attention, in general;

- reporting the results of the investigated subjects to the standards for the age of over 17 (see table no. 2), there is a good overall result obtained, expressed in points which correspond to certain centiles with values of more than 62;

- the mean for psychic resistance has higher values in the group of Master students with 88.83, lower in the group of professional reorientation students with 87.00 centiles, and the lowest in the group of Bachelor students with 77.72 centiles;

- the mean for distributive attention, the four stages has higher values in the group of Master students between 22.61 and 21.39 points, in the group of professional reorientation students between 22.22 and 21.17 points, and the lowest in the group of bachelor students between 20.72 and 18.61 points;

- there are differences in point values, average values and values in centiles between the three groups included in the research.

In conclusion, the *hypothesis* according to which the level of attention and the resistance to psychic

fatigue is higher for the students enrolled in the Bachelor program than those in the Master and those in the professional reorientation programs has not been confirmed.

Acknowledgments.

The researchers would like to thank the participants involved in this study.

References

- Baranski IK, 1979, 20th Century Pedagogy – Optimization Of The Education System (in Romanian: Pedagogia secolului XX – Optimizarea procesului de învățământ, D.P. Publishing House, Bucharest, pp.17-18
- Cristea S, 2003, Fundamentele științifice ale educației, Litera Publishing House, Bucharest, p. 159.
- Dumitriu C, 2003, Strategii alternative de evaluare – Modele teoretico-experimentale, D.P Publishing House., Bucharest, pp.171-172.
- Macavei E, 2001, Pedagogie –Teoria educației Aramis Publishing House, Bucharest, p. 193.
- Nicoară D, 2003, Note-de-Curs, <https://www.scribd.com/document/26632410/TES-TARE-PSIH-I-Note-de-Curs-Daniela-Nicoara>, accessed on 1st December 2016, at 9:39 pp. 91-97.
- Nicu AI, 2002, Enciclopedia Educației Fizice și Sportului din România, Volumul IV- Dicționar descriptiv și explicativ de termeni, Aramis Publishing House, Bucharest, p. 62.
- Smith EE, Nolen-Hoeksema S, Fredrickson BL, Loftus GR, 2005, Atkinson & Hilgard Introduction to Psychology, Tehnica 55 Publishing House, Bucharest, p. 213.
- Șchiopu U, 2002, Introducere în psihodiagnostic, Fundația Humanitas Publishing House, Bucharest, 151-153. (b) Șchiopu U, (<https://www.scribd.com/document/36412564/Ursula-Schiopu-Introducere-in-Psihodiagnostic>, p. 102, accessed on 8th April 2017, at 14:19. (a)