Aspects Of Logical Reasoning For Candidates Enrolled In The Admission Programme For Higher Education (18-27 Years)

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Abstract

Problem Statement: Logical and reason can not be separated, due to the fact that only together they establish a correct system of thought and define logical reasoning. Thought is often dissolved in solving problems, according to some authors, and according to J. Piaget, quoted by M. Golu (p. 331), "is reduced to a system of operations". In order to prove the statement, I used a set of tests (evaluation tests) which helped me detect quality aspects of reasoning in general and of logical reasoning in particular.

Purpose of Study: For this research I started from the assumption that leisure time is wrongfully spent in front of the computer, television, or playing electronic games, which leads to a loss of contact with reality and limits logical reasoning. My research was conducted on a group of 126 individuals (boys and girls) candidates for higher education, high school graduates, and eager to become students, who come from different institutions, but theoretically have similar preoccupations and the tendency of obtaining the same social status – of students, future intellectuals.

Research Methods: Bibliographic study method; observation method; enquiry method (questionnaire, discussion, enquiry, etc.); pedagogical experiment method; statistical-mathematical method; observation method, graphical method.

Findings: The research aims to emphasize that leisure time wrongfully spent in front of the computer, television, or playing electronic games, leads to a loss of contact with reality and limits logical reasoning, while individuals who have a programme where they alternate group sports activities, such as lessons Physical Education, and sports games with static computer games, electronic games or watching television, benefit from a different process of development, proven by the manner in which they approach reasoning issues.

Conclusions: In all these changes I consider that a particularly important role is held by the absence of Physical Education lessons and the presence of computer, television or electronic games addiction, reason for which I believe that leisure time wrongfully spent in front of the computer, television or playing electronic games, leads to a loss of contact with reality and limits the subjects' logical reasoning.

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1. Introduction

Reasoning – a fundamental form of logical thought – is a mixture of psychic processes and the manner in which one determines the quality of truth of correct judgement, namely logical reasoning. From the mixture of judgement acts, only one represents the conclusion of the process, derived from logical reasoning and sustaining the permitted set of remaining judgment acts. The analysis which accompanies reasoning is a logical action (logical analysis), useful for erasing errors and for logical reconstruction. On the basis of such an analysis I may erase logical language errors and “reconstruct the true answer, according to a logical and correct succession, similar to logic as seen from a semiotic point of view” (www.scritube.com/stiinta/drept/Metodele-rationamentului. p. 2)

2. Hypothesis

For this research I started from the assumption that leisure time is wrongfully spent in front of the computer, television, or playing electronic games, which leads to a loss of contact with reality and limits logical reasoning.

3. Methods

3.1. Subjects

My research was conducted on a group of 126 individuals (boys and girls) candidates for university programmes, high school graduates, and eager to become students, who come from different institutions, but theoretically have similar preoccupations and the tendency of obtaining the same social status - of students, future intellectuals.

3.2. Research methods

Bibliographic study method; observation method; enquiry method (questionnaire, discussion, enquiry, etc.); pedagogical experiment method; statistical-mathematical method; observation method, graphical method.

3.3. Research purpose

The present research aims to observe aspects regarding logical reasoning for candidates enrolled in the admission process for university programmes. Subjects are aged between 18 and 27, or above, this being a period when it is presupposed that an individual is intellectually mature and has a just logical reasoning system. As a consequence of certain aspects observed at candidates enrolled in the admission process for university programmes over years, and through my participation as a member of the committee for testing physical skills, I have proposed this research to be undertaken. Subjects had a set of skills tested, as following: physical skills, calligraphic writing, diction and logical reasoning, based on a pre-established series of tests. For each task a Ph.D. specialist was appointed as supervisor, due to the fact that he or she had extensive knowledge regarding the process. The tested skills (physical skills, calligraphic writing, diction and logical reasoning) are of major interest, absolutely necessary, indispensable I may say, for the future career of a teacher or university professor. Tests were needed for candidates in order to enrol for the admission process for Educational Sciences, within the Faculty of Letters and Sciences, specialisation Pedagogy in Preschool and Primary Education (PPPE). The purpose of this research is to observe a modal component of psychic life, namely thought, as a specific activity, centred on logical reasoning, because reasoning is “the third level of integration of the informational content of thought, being represented by discursive constructs” (Golu M., 2002, p. 336), based on physical skills.
4. Research tasks

Research tasks aimed at observing the experimental situation, according to significant existent modifications regarding logical reasoning and performances obtained at different tests and exercises.

5. Research content

The research was undertaken over the entire period of the admission process and was organised in phases of testing physical skills, calligraphic writing, diction and logical reasoning, and a pre-established series of supplementary questions regarding the manner in which candidates spend their leisure time (standing in front of the computer, television, playing electronic games or sports games). The process of testing my research subjects had the purpose of observing significant existent modifications regarding logical reasoning and performances obtained at different tests and exercises, between individuals wrongfully attracted by computer, television, and electronic games and those who spend their leisure time practicing sports games at school with friends, colleagues or with family members.

6. Data analysis and interpretation

The research was undertaken on a group of 126 candidates. In order to observe which aspects of this study are and to separate issues, I applied the evaluation in phases:

- Phase I – regarding the subjects’ choice of spending their leisure time (standing in front of the computer, television, playing electronic games or sports games);
- Phase II – testing and evaluating reading abilities and calligraphic writing;
- Phase III – testing and evaluating physical skills;
- Phase IV – testing and evaluating logical reasoning.

Phase I – regarding the subjects’ choice of spending their leisure time (in what manner?):
I must state that this section raised the greater amount of surprise. From the total number of 126 enrolled candidates, 89 of them, meaning 70.64%, prefer to spend their spare time in front of the computer (PC), television (TV), and playing electronic games, while 37, or a percentage of 29.36%, spend their leisure time practicing sports games at school with friends, colleagues or with family members.

Phase II – testing and evaluating reading abilities and calligraphic writing – this phase presented no impediments for subjects, as 100% of them read well, and 99% had a grammatically correct and calligraphic writing.

Table 1 Observation protocol regarding the identification of “Personal Data” and the reading-writing activity

<table>
<thead>
<tr>
<th>Questions: “Personal Data” and the reading-writing activity</th>
<th>Results in %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PC, electronic games</td>
</tr>
<tr>
<td>1. Phase I – regarding the subjects’ choice of spending their leisure time (in what manner?)</td>
<td>70.64 %</td>
</tr>
<tr>
<td>2. Phase II – testing and evaluating reading abilities and calligraphic writing</td>
<td>Correct reading 100%</td>
</tr>
</tbody>
</table>

Phase III – testing and evaluating physical skills. This part of the study referred to the subjects’ capacity of performing certain simple physical acts and actions, without an increased degree of complexity, and to compose
physical exercises for upper, and lower limbs, and also for the head and torso (e.g. a bend of the right hand, while stretching the left hand; easy jumps on both legs, then only eight jumps on the right leg, followed by another eight for the left one, etc.). This test demonstrated that 87.30% (110) of my subjects recognised the body parts, managed to perform, when commanded, the demanded physical exercise, but they succeeded in composing their own exercises only in a proportion of 30.16% (meaning 38 subjects), therefore driving me to believe that, looking at the amount of information collected in Table 1, percentages are visibly close regarding the number and recorded data for Phase I, which refers to the candidates’ manner of spending their spare time. A percentage of 29.36%, meaning 37 of the subjects, aged over 26, who practice a sport game as a leisure time activity, also have computer skills, watch TV, and despite of this they are not attracted only by these activities. During the week, when they are at work, they are preoccupied with computers, in order to accomplish their tasks properly, but in the weekend, they are attracted to sports activities, which I believe to modify their intellect and sharpen their logical reasoning.

**Phase IV** – testing and evaluating logical reasoning. This was the manner through which I determined the value of truth of a proper judgement, namely logical reasoning. I composed a “trick” protocol, with questions and words having multiple meanings (see examples from Table 2). It has to be mentioned that each candidate had a different question, a different dilemma requiring another answer, thus having the possibility to prove his or her potential regarding logical reasoning. With the help of this test I wanted to emphasize aspects of logical reasoning for high school graduate candidates. The surprise was to observe that only 30.95% (39 of 126 subjects) managed to find a logical sequence of answers, while the majority – meaning 69.05% (87 subjects) found themselves troubled by questions and answered without suspecting the trap behind each question. In other words, they did not look beyond the meaning of words, assimilated them as a mass in the manner they were written, without drawing a difference. This event occurred, in my belief, due to the fact that these subjects do not have the possibility of understanding the multitude of meanings a word may possess. Were I allowed to draw a comparison, I would state that these candidates, part of the new generation, only perceive the world in black and white, without any colour variations or shades.

**Table 2 Observation protocol regarding the identification of logical reasoning (words and questions)**

<table>
<thead>
<tr>
<th>Logical reasoning – words and questions - examples</th>
<th>Candidates’ answers (incorrect)</th>
<th>The correct answer required by logic</th>
<th>Results in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Where is Stephen the Great sitting in battle?</td>
<td>On a hill; on the battlefield; in front of his soldiers, etc.</td>
<td>On a horse!</td>
<td>Reasoned logically 30.95%</td>
</tr>
<tr>
<td>2. How do you say correctly: a feather of a fox in the hat or a feather of a fox on the hat?</td>
<td>The majority answered: a feather … on the hat.</td>
<td>Foxes do not have feathers!</td>
<td></td>
</tr>
<tr>
<td>3. Why does one hear the bells from the church?</td>
<td>Because it is a holiday, a sermon, etc.</td>
<td>Because they are being tolled by someone!</td>
<td>Did not reason logically 69.05%</td>
</tr>
<tr>
<td>4. Form sentences with both connotation and denotation of given words.</td>
<td>Mine (something that belong to me) Mine (a cave where miners work) Snow (frozen rain) Snow (Snow White)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In order to find an explanation for the phenomenon, I searched through the files of our subjects who obtained 0 points at Phase IV – logical reasoning – and discovered that those who did not reason logically are candidates who prefer to spend their time in front of the computer, television or playing electronic games, and are aged between 18 and 21, while those who managed to answer all given questions are candidates aged over 26. As a consequence, I am determined to believe that nowadays, due to the evolution of technology, our youth prefer computers and
electronic games instead of sports activities as a leisure time activity, thus losing contact with the outer world and, therefore, the connection with the brain section which activates logical reasoning processes, and which is triggered within the relational field of socialisation. In other words, people who spend their leisure time in front of the computer or playing games have a single-directional brain sequence for the segment required by logical reasoning acts. Due to the fact that sports games presuppose direct and not virtual meeting, unpredicted situations, at these adding the emotional contact that stirs passions, controversies, but also each person’s creativity, drives one to believe that thought for those who have a variety of activities to spend their leisure time, dominated by physical acts and outdoor experience, while being in contact with nature and earth, is a more complex process, as they possess a visibly superior degree for their logical reasoning acts, in comparison with people who choose to live in a virtual world of the computer and possess a single-directional type of intelligence, thus confirming the research hypothesis.

This was the manner in which I determined the value of truth of a correct judgement, namely logical reasoning, and I discovered that leisure time wrongfully spent in front of the computer, television, or playing electronic games, leads to a loss of contact with reality, limits both logical reasoning and the “degree of one’s organisational ability”, and that only a small amount of information, which ought to be used in time, is stocked “in the latent content of thought for further use” (M. Golu, 2002, p. 337). I believe that it would stimulate one’s motor memory and, along with it, one’s motor intelligence, offering subjects the possibility of updating information according to their needs. The results recorded from subjects after the testing process, I believe to prove that leisure time wrongfully spent in front of the computer, television, or playing electronic games, leads to a loss of contact with reality and limits logical reasoning.

5. Conclusions

• Reasoning is a mixture of psychic processes and the manner in which one determines the quality of truth of a correct judgement, namely logical reasoning.

• The tested skills (physical skills, calligraphic writing, diction and logical reasoning) are of major interest, absolutely necessary, indispensable I may say, for the future career of a teacher or professor.

• Recorded results collected from subjects after the testing process prove that leisure time wrongfully spent in front of the computer, television, or playing electronic games, leads to a loss of contact with reality and limits logical reasoning.

• Thought for people with different activities, dominated by physical acts and outdoor activities proved to be a more complex and sharpened process, as they possess a superior logical reasoning to those who chose the virtual life of computers and possess a single-directional type of intelligence, thus confirming the research hypothesis;

• The approached theme remains open to further study for field specialists, as it may be transformed and perfected.

References


Internet., www.scribute.com/stiinta/drept/Metodele-rationamentului... - Cached, Methods of juridical reasoning: induction, deduction, analysis, synthesis, using processes of formal logic and syllogism within the juridical system of thought 2.

Internet., Logical Reasoning – Wikipedia.ro: wikipedia.org/wiki/Logical reasoning; Reasoning as a crossing act, which extracts a conclusion from a set of given premises, can not be other than formal logic, in the sense of using procedures, 1-3


