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Cognitive ability among LD and normal adolescents

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ABSTRACT

In psychology, cognitive ability refers to aptitude for carrying out mental processes, such as problem solving, adaptation, comprehension, reasoning, knowledge acquisition, abstract thought, and making connections. In education, cognitive ability is considered a foundation for learning. Learning Disabilities" refers to a variety of disorders that affect the acquisition, retention, understanding, organization or use of verbal and/or non-verbal information. These disorders result from impairments in one or more psychological processes related to learning a, in combination with otherwise average abilities essential for thinking and reasoning. Learning disabilities are specific not global impairments and as such are distinct from intellectual disabilities. Hence a study is conducted in order to find out the cognitive ability among LD and normal adolescents.

Keywords: *Cognitive Ability, LD*

1. INTRODUCTION

In order to understand Cognitive ability, we need to understand the mental processes through which we acquire information and try to understand it. Now, the question is what are those processes through which we understand this world? There is no single process but a collection of processes that are responsible for giving meaning to this world which is known as cognitive processes. Thus, cognitive processes are those mental processes using which; we acquire information from the world and understand it. In this unit we are going to discuss five important cognitive processes namely: attention, perception, learning, memory and thinking. We will try to understand these processes and see how it affects our behavior.

As a cognitive process, attention allows us to concentrate on a stimulus or activity so that we can process it more thoroughly later. This variable has vital importance in an adolescent. Attention is a critical cognitive function for the development of everyday situations, and it is used in the majority of daily tasks. It's even been suggested that it's a control and regulation mechanism for the rest of the brain's functions.

As the role of the teacher, adapts to the changing nature of education, the focus of learning in schools is seen shifting from a knowledge-based focus to a skills-based curriculum. Work on collaborative inquiry learning and the inclusion of learner voice are also factors in this teaching paradigm shift. Much of the previous research on self-regulation has concentrated on older students. However, there is a growing interest in developing Self-Regulated Learning throughout the primary years of schooling. The study initially focused on the curriculum as a driver of the development of self-regulated learning. However, when the learner and teacher questionnaire results from a variety of schools were analysed, it became clear that the teacher-learner relationship was critical to the initiation and support of autonomous learning, regardless of the school's curricula background. The role of the teacher is regarded as crucial in the development of self-regulated learning. Self-regulation enables your child to make appropriate behavioural decisions and learn how to behave in new situations with less guidance from you.

2. AIM/OBJECTIVE OF THE STUDY

The main objective of the study was to assess the cognitive ability of adolescents with and without Learning Disability.

3. HYPOTHESIS

There exists significant difference in cognitive Ability of adolescent with and without learning disability.

4. SAMPLE

The study comprises of male and female school going adolescents belongs to the age group of 13-18 years old. The participants of the present study were collected from different districts of school located in Kerala. The sample constitutes both male and female adolescence. Total 48 male participants and 52 female participants constituted total sample. Learning disabled adolescence was selected from those who are seeking clinical intervention at psychologists. The total sample size was 100 (30 LD & 70 Non LD) in number. Random sampling method has employed to select participants of the present research.

5. RESEARCH DESIGN

Here the Descriptive Research Design was used. The present research adopted descriptive research design, to be more specific co-relational research design has followed because this particular research design help researcher to investigate relationship between variables without the researcher controlling or manipulating any of them. To fulfill this research design survey method has adopted.

6. STATISTICAL METHODS

1. t test

Procedure

Researcher has approached selected participants for the present research and took consent for their participation for the study. Researcher has informed that their participation is voluntary and the collected data will keep confidential. Participants received reassurance that data will use for the research purpose only. Cognitive ability questionnaires have distributed after meeting each participant personally. Guidelines for filling each questionnaire have made clear to participant and they were free to clarify any doubts regarding the marking of their responses. After filling questionnaire, the response sheet has collected back and thanked them for their willingness for participation. The data for present investigation was obtained using the following tools.

Cognitive Ability Test developed by Prof. Madhu Guptha and Prof. Bindiya Lakhani (English). This is a self-administering and self-reporting paper pencil test to assess the cognitive abilities of students studying in secondary and senior secondary schools.

7. DISCUSSIONS

Table 1: Mean, SD, t-value of adolescents based on presence and absence of learning disability in cognitive ability.

Variables	LD adolescence (N=30)		Non-LD adolescence (N=70)		t-Value
	Mean	SD	Mean	SD	
Awareness	2.76	1.65	3.64	1.65	2.43*
Memory	3.03	1.29	3.85	1.43	2.81*
Understanding	1.83	1.08	2.64	1.20	3.30**
Reasoning ability	1.50	1.04	2.38	1.27	3.63**
Problem solving	1.70	1.31	1.95	1.12	0.99
Total cognitive ability	10.83	3.94	14.48	3.75	4.38**

****significant at the 0.01 level**
***significant at the 0.05 level.**

Table 1 demonstrates t-test result obtained for find out the significance difference in total cognitive ability and its different dimensions between learning disabled and non-learning disabled adolescence. Mean, SD obtained for both group (learning disabled and non-learning disabled adolescence) as well as the t value with significance also mentioned in this particular table.

Mean and SD for first dimension of total cognitive ability i.e., awareness of LD adolescence as follows; 2.76 and 1.65. For the second group i.e, non-LD group Mean and SD obtained 3.64 and 1.65 respectively. t value obtained is 2.43 and it is significant at 0.05 level of significance. Here it can be infer that there is a significant difference between first and second group in terms of awareness. Since the mean value of non-LD adolescence is higher it can be confirm that awareness of non-LD adolescence is higher as compared to LD adolescence. This is consistent with our general knowledge regarding learning disabled students. It is already clear that awareness of LD adolescence is lower as compared to non-LD adolescence.

Mean and SD for second dimension of total cognitive ability i.e., memory of LD adolescence as follows; 3.03 and 1.29. For the second group i.e, non-LD group Mean and SD obtained 3.85 and 1.43 respectively. t value obtained is 2.81 and it is significant at 0.05 level of significance. Here it can be infer that there is a significant difference between first and second group in terms of memory. Since the mean value of non-LD adolescence is higher it can be confirm that memory of non-LD adolescence is higher as compared to LD adolescence. Memory capacity of learning disabled children is lower as compared normal children.

Mean and SD for third dimension of total cognitive ability i.e., understanding of LD adolescence as follows; 1.83 and 1.08. For the second group i.e, non-LD group Mean and SD obtained 2.64 and 1.20 respectively. t value obtained is 3.30 and it is significant at 0.01 level of significance. Here it can be infer that there is a significant difference between first and second group in terms of ability in understanding. Since the mean value of non-LD adolescence is higher it can be confirm that non-LD adolescence understanding skill is higher as compared to LD adolescence. LD children are less skilled in understanding concepts, non-verbal behaviours, emotions etc.

Mean and SD for fourth dimension of total cognitive ability i.e., reasoning ability of LD adolescence as follows; 1.50 and 1.04. For the second group i.e, non-LD group Mean and SD obtained 2.38 and 1.27 respectively. t value obtained is 3.63 and it is significant at 0.01 level of significance. Here it can be infer that there is a significant difference between first and second group in terms of reasoning ability. Since the mean value of non-LD adolescence is higher it can be confirm that non-LD adolescence reasoning skill is higher as compared to LD adolescence. LD children are less skilled in reasoning and other associated skill.

Mean and SD for fifth dimension of total cognitive ability i.e., problem solving skill of LD adolescence as follows; 1.70 and 1.31. For the second group i.e, non-LD group Mean and SD obtained 1.95 and 1.12 respectively. t value obtained is 0.99 and it is not significant at any level of significance. Here it can be infer that there is no significant difference between first and second group in terms of problem solving skill**.** But we can see a mean difference in problem solving skill of research sample.

Mean and SD for total cognitive ability of LD adolescence as follows; 10.83 and 3.94. For the second group i.e, non-LD group Mean and SD obtained 14.48 and 3.75 respectively. t value obtained is 4.38 and it is not significant at 0.01 level of significance. Here it can be infer that there is a significant difference between first and second group in terms of total cognitive ability. And from the mean difference it can be conclude that total cognitive ability is higher for non-LD group as compared to LD group. Cognitive impairment is one of the common difficulties seen among learning disabled children.

8. RESULT

Total cognitive ability is higher for non-LD group as compared to LD group. Cognitive impairment is one of the common difficulties seen among learning disabled children.

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