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Intelligence Quotient (IQ) of High School Students of the University of Bohol - Victoriano D. Tirol Advanced Learning Center

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ABSTRACT

Intelligence Quotient indicates the progress of learning by dividing the achievement age by the mental age. This study identified the IQ of high school students of the UB- VD ALC and its relevance to teaching-learning process. The researcher used OLSAT designed to measure verbal and non-verbal skills. The study utilized the qualitative-quantitative descriptive research involving 177 students being drawn by universal sampling. Results showed that the Second Year level has the most number of students whose IQ is Below Average, 5 comprising the 10% of the population. In addition, most Second Year students had Average IQ and who had the total frequency of 37 (71%) compared to the rest of the year levels. The Fourth Year level embraced the highest number of Above Average students, 47% with the frequency of 17. In general, 7% or 13 students out of 177 total high school population had Below Average IQ level while 110 students (62%) were on Average, and finally 54 of them (31%) were Above Average. The classification of IQ among the students at all levels will be provided to the curriculum developers to enhance the teaching- learning experience of the students.

KEYWORDS

Social Science, IQ, descriptive-inferential, Bohol, Philippines

INTRODUCTION

University of Bohol- Victoriano D. Tirol Advanced Learning Center is considered advanced not only in school facilities and equipment but all the more the curriculum itself. Although the school offers screening service, other variables could affect the admission. The fact that UB- VDT ALC is a private institution, students are the lifeblood of its operation.

The researcher acknowledges that there is no concrete conceptualization of what exactly constitutes intelligence. Theorists and psychologists are divided if intelligence truly is a single general factor or a collection of specific abilities.

The theory of intelligence by Donald Hebb (1942), P. E. Vernon classified human intellectual ability into two divisions: "Intelligence A", a biological substrate of human cognitive ability and; "Intelligence B" which will be generated when the first division interacts with the environment. He further elaborated this definition by adding "Intelligence C" which refers to the scores or IQ acquired through cognitive testing. P. E. Vernon in addition, exhibited the hierarchical group factor theory of the structure of human intellectual abilities. At the top of this hierarchy was Spearman's general factor (g), which accounted for the largest source of the variance in intelligence. One level below g are the 2 broad factors corresponding to "verbal-educational" and "practical-mechanical" abilities. Immediately below the major group are the minor group factors. Thus, the broad "verbal-educational" group factor can be divided into minor groups, e.g., verbal or numerical, which can be further divided into the specific factors or tasks involved in reasoning.

In a paper on Cognitive Style and Children's Learning: Individual Variation in Cognitive Processes, Saracho, O. N., & Spodek, B. (1984) that focuses on cognitive style, a psychological construct concerning the manner in which individuals differ from one another in intellectual functioning. Researchers in the area have amassed evidence suggesting that cognitive style affects the way students learn, the way teachers teach, and the way students and teachers interact. Importantly, it fathoms and describes the most popular instruments used to measure cognitive style. Furthermore, it identifies the relationship between cognitive style and intellectual functioning, including academic achievement; and describes students' learning styles and teachers' teaching styles. It is therefore concluded that greater attention should be given to learners' cognitive styles in order to better match educational resources and the abilities of students to make use of those resources.

Psychometric testing has been very beneficial in both arrays of professional and organizational consumption. They used IQ testing in screening, hiring and placing employees in different departments where they fit best. In academe, results of such

tests would be the basis for counseling purposes. Thus, they help us discover and understand individual differences, increase self-understanding and personality development, uncover learning disabilities, improve learning and instructional modes, and recommend solutions for the spotted difficulties at large.

Adjustment is definitely the first phase of teaching-learning process. Since it is the teachers' paramount responsibility to effect learning, understanding learners' individual distinctiveness would sow a great deal of advantage in classroom management and academic performance. The measure of a great teacher is when you make the slow learners, learn; when you manage the less motivated be interested in the lessons and in the subject in general. These would be impossible to attain if learning needs of the students will not be fathomed and met.

OLSAT is just one of the many other psychometric tests that yields a better understanding on the strengths and weaknesses of the learners. Many would criticize its validity and reliability but over the years, it has been recognized and accepted in industrial and organizational settings, clinical field and in academe.

The study was designed to identify the Intelligence Quotient (IQ) of high school students of the University of Bohol- Victoriano D. Tirol Advanced Learning Center, Bohol, Philippines and its relevance to teaching-learning process, SY 2012-2013.

It addressed the following specific objectives:

1. to determine the performance categories that each section and year level belong;
2. to discover the general IQ profile of the students of the University of Bohol-Victoriano D. Tirol Advanced Learning Center; and,
3. to design interventions and academic measures the school administration can plot in order to meet the students' needs.

The findings of this study will be valuable to the following groups and individuals:

University of Bohol. This study will encourage the administrators, faculty members, employees and staff to maximize the relevant use of psychometric tests to gauge and appreciate the learners better and plot apt interventions and programs for the benefit of all.

UB-VDT ALC teachers. The findings of this study will be useful inputs to adjustment techniques and teaching strategies concerning the student's performance category he/ she belongs to. Thus, it would be easier for the educators to understand the students' mental acuity.

UB-VDT ALC students. It is all but essential that they must be aware of the facets of their intelligence. For with knowledge comes understanding and thus ultimately ponder growth and development.

Researchers. They will be stimulated to make attempts to expand or replicate this study.

Parents. As teachers, guidance counselors, and parents rolled into one, it is their principal desire to understand their children, tap their potentials and carry them all the way through.

METHODOLOGY

The research utilized the qualitative-quantitative descriptive research involving 177 students being drawn by universal sampling employing students from first to fourth year. In each year level, there were 2 sections: Scholarship and Character. There were 24 students in First Year- Scholarship and 21 from Character for a total of 45 first year subjects. In Second Year, there were 52 participants. 26 of them were from Scholarship and the same number of students came from Character. In Third Year, there were 44 total respondents; 22 from Scholarship and another 22 from Character. In Forth Year, there were 18 participants in each of the sections totaling to 36 number of respondents.

Materials included OLSAT Manual, questionnaires and answer sheets for each respondent, pencils, erasers, and timer for the proctor. In addition physical condition of the testing room was checked. The proctor conducted orientation on the purpose and nature of the study, relevance of taking IQ test, OLSAT's procedural administration and its technicalities. Furthermore, it was reiterated that individual results will be kept with utmost care and confidentiality.

OLSAT templates were used to score, analyze and interpret the data gathered. Raw Scores represented the number of items correctly answered which would then be converted to scaled score that bonded all the levels of the test to compare performance of students taking different levels of the test. Next, students' test scores with scores of students of their same age regardless of their grade placement would be compared in the standardization program.

There were three age-based derived scores – the School Ability Indexes (SAI), a normalized standard score with a mean of 100 and a standard deviation of 16. They are of three-month intervals of chronological age for Total, Verbal, and Non-verbal scores. Percentile ranks informed relative standing of the student in opposite with others of the same age without taking account their grade placement. Stanines are normalized standard scores with a range of 1 to 9 and a mean of 5. Stanines 1-3

were interpreted as Below Average performance; stanines 4-6 as Average; and stanines 7-9 as Above Average. Age-based stanines corresponding to OLSAT SAIs indicate student's level of ability compared with other students of the same chronological age. Finally, Cluster Analysis determines whether the raw score for each cluster (Total, Verbal, Verbal Comprehension, Verbal Reasoning, Non-verbal, Figural Reasoning, and Quantitative Reasoning) is Below Average, Average or Above Average in relation to their raw scores garnered. In profiling institutional report, individual results were entered and tabulated using Microsoft Excel for easier computation and filling at the same time kept with utmost confidentiality to protect their morale.

RESULT AND DISCUSSION

Figure 1. IQ Profile of the First Year Students

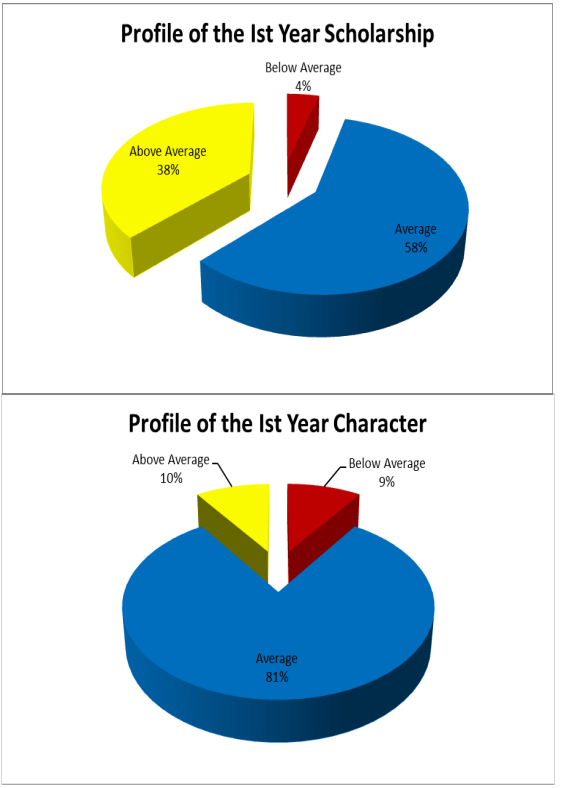

Figure 1 shows the IQ Profile of the first year students sections Scholarship and Character. In section Scholarship, out of 24 students, 1 student is Below Average (4%), 14 are Average (58%) and, 9 students has IQ of Above Average (38%).The first year- Character has 21 total classroom population in which 2 (9%) of them are Below Average, 17 (81%) are Average and, 2(10%) have Above Average Intelligence Quotient.

Figure 2. IQ Profile of the Second Year Students

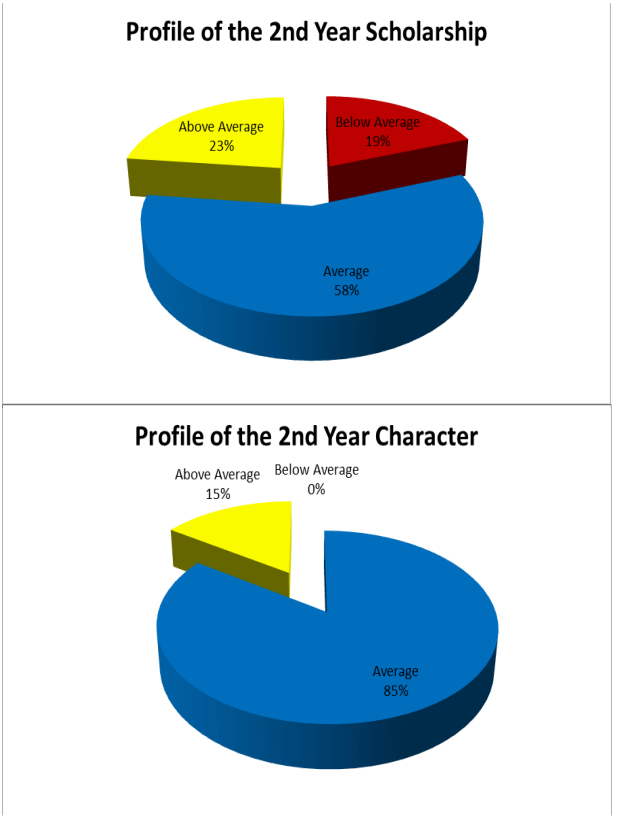

Figure 2 depicts the second year OLSAT result of sections Scholarship and Character. For Scholarship whose total classroom population is 26, 5 (19%) of them are Below Average IQ, 15 (58%) are Average and, 6 (23%) students are Above Average. In section Character, none is Below Average, 22 (85%) students are Average and, 4 (15%) are Above Average for a total of 26 students.

Figure 3. IQ Profile of the Third Year Students

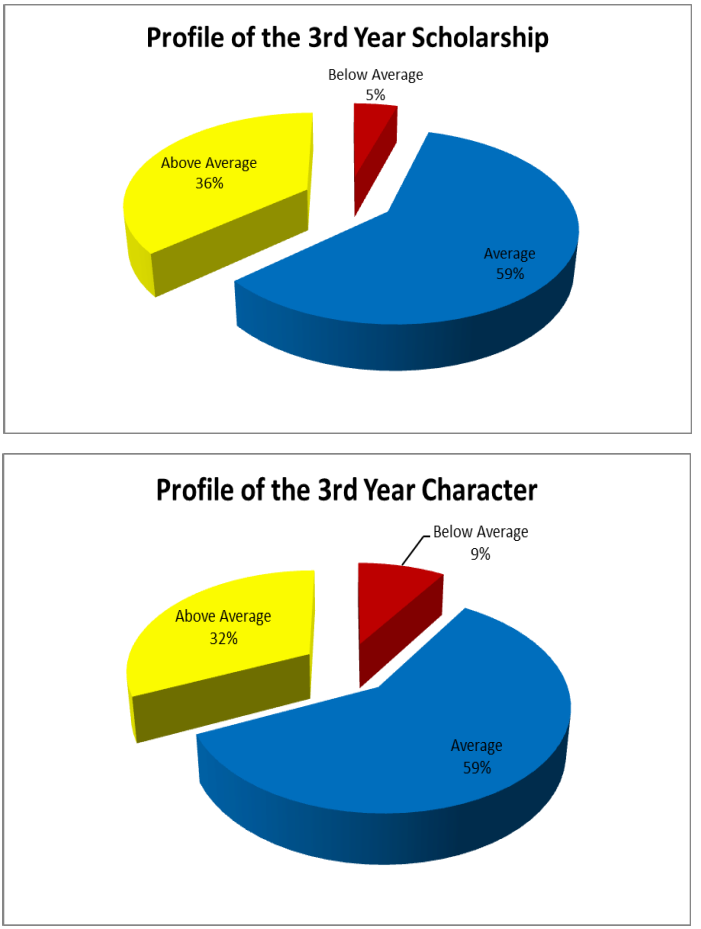

Figure 3 represents the IQ profile of the third year- Scholarship and Character students of UB-VDT ALC. 1 (5%) student is Below Average, 13 (59%) are Average and, 8 (36%) are Above Average totaling the population of 22. In section Character where there are 22 students, 2 (9%)of them are Below Average, 13 (59%) are Average and, 7 (32%) are Above Average.

Figure 4. IQ Profile of the Fourth Year Students

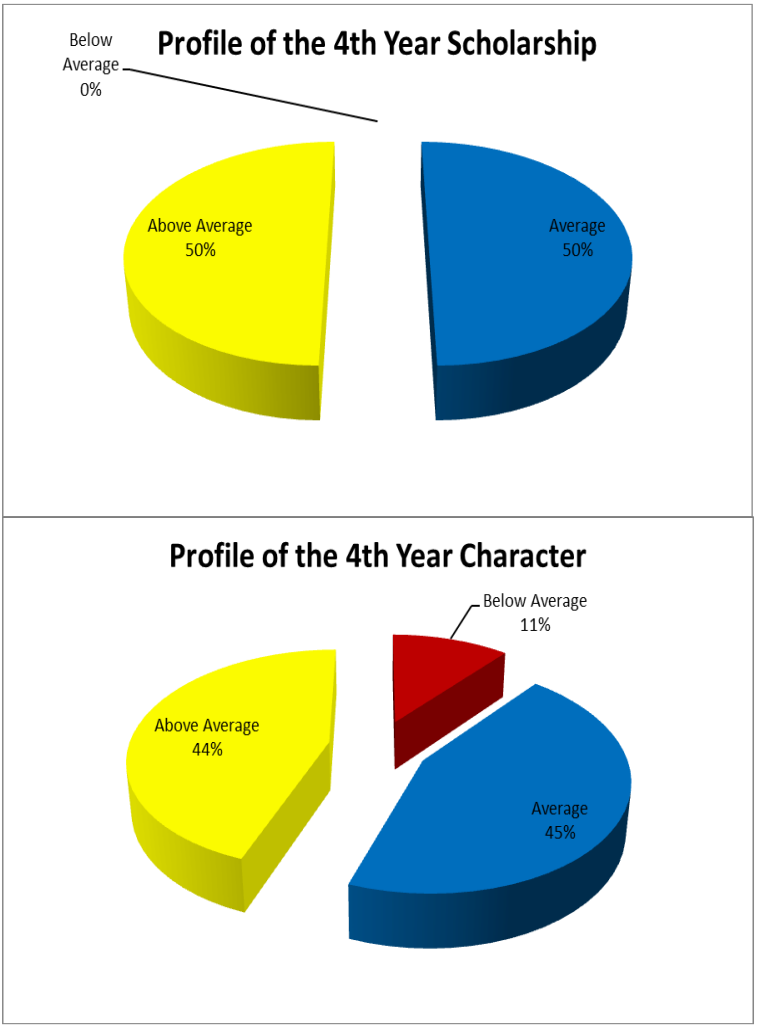

Figure 4 illustrates the OLSAT profile of the fourth year- Scholarship and Character classes. In Scholarship, 50% of the total classroom population (18) is Average and the other half is Above Average. In fourth year- Character, 2 (11%) are Below Average, 8 (45%) are Average and another 8 (44%) Above Average IQ.

Figure 5. Profile of the First Year OLSAT Result

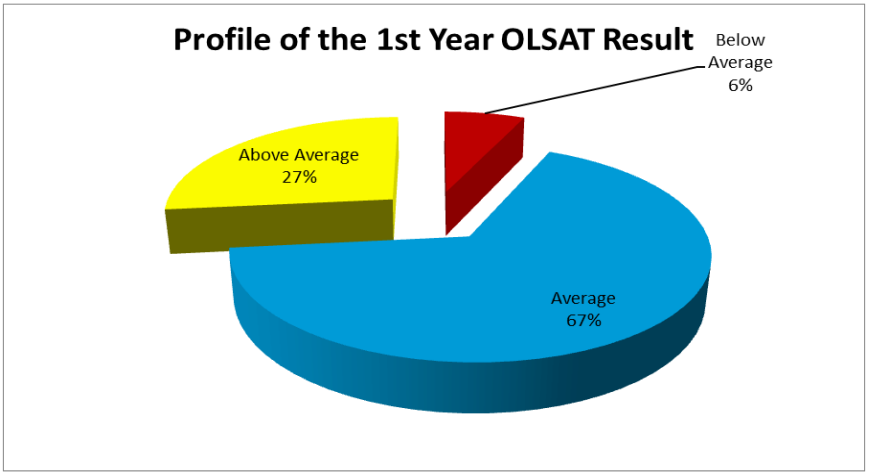

Figure 5 explains the first year OLSAT profile in which 3 students (6%) are Below Average, 30 (67%) are Average and, 12 with 27 % are Above Average.

Figure 6. Profile of the Second Year OLSAT Result

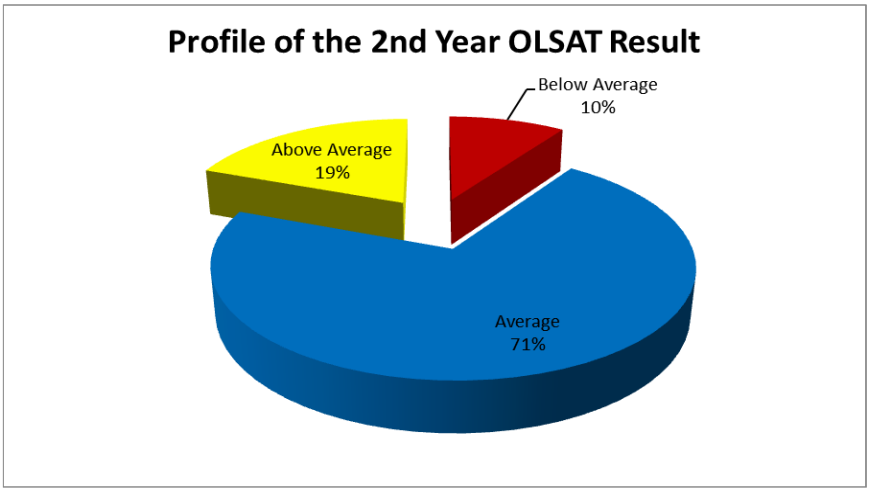

Figure 6 displays the OLSAT result for the second year level where 5 (10%) students are Below Average, 37 (71%) are Average and 10 (19%) students are Above Average.

Figure 7. Profile of the Third Year OLSAT Result

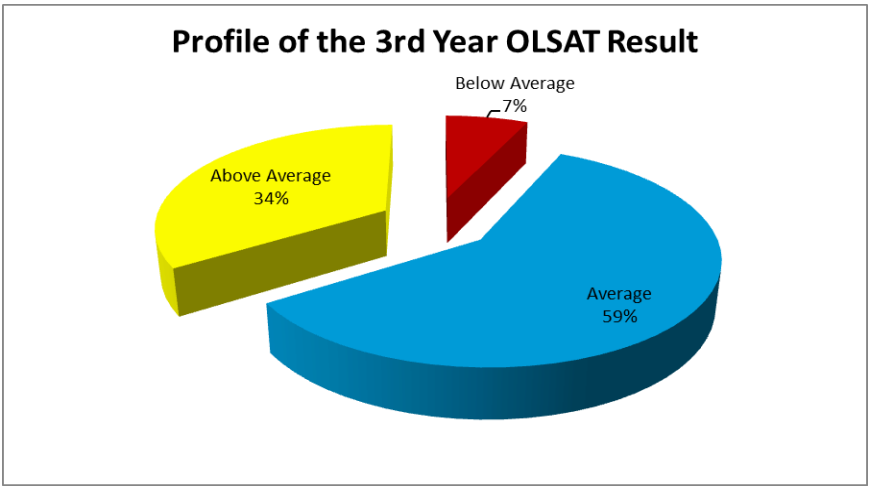

Figure 7 denotes the third year IQ interpretation. For a total of 44 students, 3 are Below Average, 26 are Average and, 15 are Above Average.

Figure 8. Profile of Fourth Year OLSAT Result

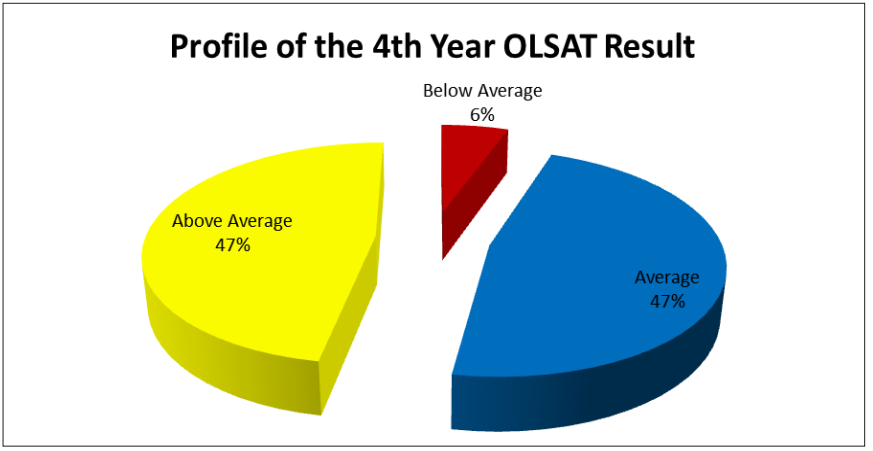

Figure 8 demonstrates the fourth year result of their OLSAT in which 2 (6%) students are Below Average, 17 (47%) are Average and another 17 students are Above Average.

Figure 9. OLSAT Overall Profile of UB-VDT ALC Students

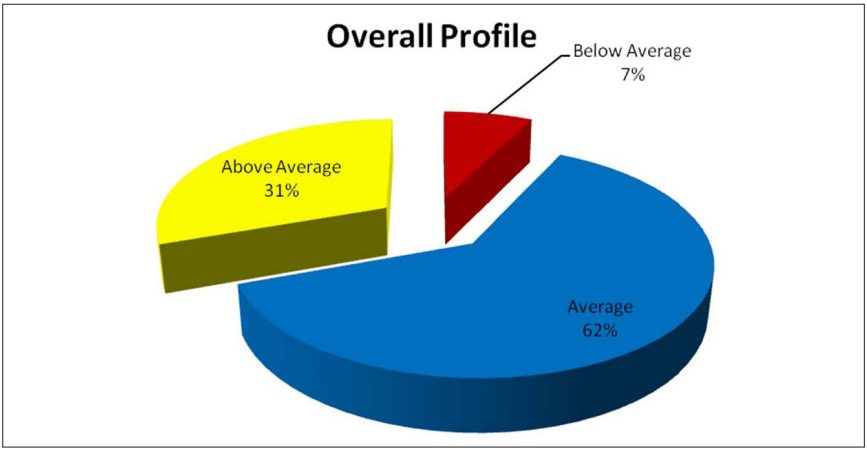

Figure 9 epitomizes the OLSAT overall profile of the University of Bohol-Victoriano D. Tirol Advanced Learning Center. It shows that of 177 high school students, 13 (7%) are Below Average, 110 (62%) are Average and the remaining 54 students (31%) are Above Average.

Figure 10. Classroom Cluster Analysis

FirstYear					
Character		Clusters	BA	A	AA
	Verbal	VERBAL	6	13	2
		Verbal Comprehension	6	14	1
		Verbal Reasoning	6	13	2
	Non-Verbal	NON- VERBAL	2	15	4
		Figural Reasoning	1	18	2
		Quantitative Reasoning	4	13	4
Scholarship		Clusters	BA	A	AA
	Verbal	VERBAL	4	8	2
		Verbal Comprehension	3	11	1
		Verbal Reasoning	3	8	4
	Non-Verbal	NON- VERBAL	_	9	6
		Figural Reasoning	_	7	8
		Quantitative Reasoning	2	8	5

Second Year					
Character		Clusters	BA	A	AA
	Verbal	VERBAL	3	20	2
		Verbal Comprehension	8	14	3
		Verbal Reasoning	2	21	2
	Non-Verbal	NON- VERBAL	1	20	4
		Figural Reasoning	1	18	6
		Quantitative Reasoning	2	20	3
Scholarship		Clusters	BA	A	AA
	Verbal	VERBAL	7	12	2
		Verbal Comprehension	9	11	1
		Verbal Reasoning	7	11	3
	Non-Verbal	NON- VERBAL	6	11	4
		Figural Reasoning	6	11	4
		Quantitative Reasoning	5	12	4
Third Year					
Character		Clusters	BA	A	AA
	Verbal	VERBAL	3	15	3
		Verbal Comprehension	4	15	2
		Verbal Reasoning	3	14	4
	Non-Verbal	NON- VERBAL	_	10	11
		Figural Reasoning	1	10	9
		Quantitative Reasoning	3	9	9
Scholarship		Clusters	BA	A	AA
	Verbal	VERBAL	2	13	4
		Verbal Comprehension	3	12	4
		Verbal Reasoning	_	15	4
	Non-Verbal	NON- VERBAL	_	8	11
		Figural Reasoning	1	9	9
		Quantitative Reasoning	_	9	10

Forth Year					
Character		Clusters	BA	A	AA
	Verbal	VERBAL	1	11	6
		Verbal Comprehension	3	9	5
		Verbal Reasoning	1	11	6
	Non-Verbal	NON- VERBAL	_	7	11
		Figural Reasoning	_	10	8
		Quantitative Reasoning	1	4	13
Scholarship		Clusters	BA	A	AA
	Verbal	VERBAL	_	12	7
		Verbal Comprehension	_	13	6
		Verbal Reasoning	_	12	7
	Non-Verbal	NON- VERBAL	_	5	14
		Figural Reasoning	1	9	9
		Quantitative Reasoning	_	5	14

Figure 10 illustrates the analysis of the clusters measured by OLSAT. These are the verbal skills specifically verbal comprehension, verbal reasoning, and the non-verbal skills covering figural reasoning and, quantitative reasoning. BA stands for Below Average, A for Average and, AA for Above Average. The classroom cluster analysis will guide the subject teachers so as the advisers adjust their teaching styles and pacing. With this Cluster Analysis, teachers could help the learners cope with the lessons well without violating the confidentiality of their identities.

CONCLUSION

1. Results showed that the Second Year level has the most number of students whose IQ is Below Average. In addition, most Second Year students had Average IQ.
2. The Fourth Year level embraced the highest number of Above Average students.
3. In general, 7% of 177 total high school population had Below Average IQ level while 62% were Average, and 31% were Above Average.

It is generally concluded that the individuality of learners' intellectual functioning is tantamount to effective learning process. This directly correlates to the paper conducted by Saracho and Spodek (1984) about Cognitive Style and Children's Learning: Individual Variation in Cognitive Processes that greater attention should be given to learners' cognitive styles in order to better match educational resources and the abilities of students to make use of those resources.

RECOMMENDATION

The researcher wishes to expand this study by correlating their Grade Point Average (GPA) with their corresponding IQ result.

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