

## Student Intelligence and Academic Achievement in Albanian Universities. Case of Vloa University

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**Abstract:** This study involves students of economic faculty that were attending bachelor in business administration and professional master degree in public administration at the University of Vloa "Ismail Qemali". During this period several dimensions of students' intelligence levels and their correlation to the final exams outcome in relevant subjects are measured and observed. The questionnaire was distributed to students of bachelor's and master's degree at the Faculty of Economy of Vloa University during the period October 2012 to February 2013. Promoting and improving students' intelligence and their critical thinking is still a novelty for universities and Albanian education system. Critical thinking and high intelligence bring positive results and create premises for well qualified employees in the private sector and public administration, too. The level of intelligence and critical thinking in classrooms and university courses in Albania is not at the appropriate levels or in the majority of cases it is non-existent, and this regardless the sounder made by the education development policy makers and managers of universities to the importance of human capital productivity and students' academic results. In purpose to explore this issue, the empirical study included 60 out of 70 students from the International Business course at bachelor degree, and 43 out of 69 students of management of human resources course at master degree in Public Administration. The improvement of students' intelligence could affect a positive impact on students' academic results and on the productivity of organizations where they will be involved. The study aims to draw the attention that university education system in our country must face the idea of encouraging and stimulating the multiple dimensions of intelligence and strengthening critical thinking skills due to the effect that these dimensions have on a better absorption of knowledge and potential development of the students.

**Keywords:** student intelligence; multiple intelligence; performance; academic achievement, higher education management

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## 1. Introduction

*“The measure of intelligence is the ability to change.” (Albert Einstein)*

The pace of development in the 21st century has been very dynamic and fast, and even the education system in Albania is facing the problems and challenges of time as any other sector to generate a competitive product of better quality. Therefore students' skills, intelligence and critical thinking should be worthy considered for the research and development projects in Albanian education system. The capacity of students' intelligence has proved to affect the outcome of their studies, associated with higher academic results. In terms of a globalization trend, as the Albanian companies and employment are facing an increased competition, therefore the skills and intelligence receive a greater importance in the way that companies and their employees become more competitive. Thus the intelligence level of current students in the higher education system, takes great importance for the development and the future of companies and firms. The evolution of education system in Albania is characterized by several important moments and developmental periods: beginning with the efforts to open first schools in native language which had long had begun, continuing with the consolidation of an education system generally available to all, and the initiatives to restructure the education system according to the western models. So, one of the challenges that must be incorporated in the Albanian development projects of university education system during this century should definitely be the stimulation or promotion of reinforcement of students' critical thinking skills. This is an issue that different and especially foreign researchers have focused in their studies on long time ago (e.g. Anderson, Howe, Soden, Halliday, & Low, 200; Khammanee & Team, 2001). Nowadays higher education structures, academic programs and teaching methods should be more oriented towards the skills and student's intelligence improvement, because companies need knowledge and intelligent employees to take efficient decisions, regardless their stage of development or country's economic context where they operate. Improving employees' skills and intelligence will increase Albanian businesses productivity and enable employment of Albanian students and employees even in foreign companies. The few investments made in Albanian education system in the 21st century have been more concentrated on tangible assets and their maintenance. During this developing period only a little has been invested in technologies and even less in equipment and teaching methods that encourage critical thinking skills and improve students' intelligence. The only

trend observed in university courses in the process of teaching and learning is the use of foreign language literature that is insufficient to improve the intelligence skills of Albanian students.

## 2. Review of the Literature

*“Intelligence is not a static structure, but an open, dynamic system that can continue to develop throughout life”* (Reuven Feuerstein)

These words of Reuven Feuerstein should make psychologists and managers of academic institutions or policy makers of intellectual development more aware of the role of education and the way it is perceived. So according to Dr. Feuerstein “intelligence is modifiable, and if indeed intelligence can be taught and learned, education has a much greater role than might have been previously imagined”. The research shows that skills and intelligence of individuals for a period of 100 years has been an important topic. Numerous authors have attempted to study and contribute in assessment and improvement of intelligence skills, aiming to promote critical thinking of students or firm’s staff. Mintzberg (2004), is one of the critics of MBA systems, because they are more focused on the analysis and techniques and therefore, according to him this is a misleading method because it “Leaves graduates with the false impression that they have been trained as managers, which has had a corrupting effect on the practice of management as well as on our organizations and societies. These are the wrong Consequences.” (p. 2). Spearman studied the concept of intelligence by testing mental abilities, and found that those who did well in the knowledge test did well in other tests, too. Spearman (1904) concluded that “intelligence is a general cognitive skill that can be measured and expressed numerically.” Thurstone (1938) offered a second theory of intelligence focusing on areas of primary mental abilities such as verbal comprehension, reasoning, perceptual speed, numerical ability, word fluency, associative memory and spatial visualization. Another idea about theories of intelligence is Gardner’s theory (1983), about multiple intelligence which focuses on eight different intelligences: verbal- linguistic intelligence, bodily-kinesthetic intelligence, logical-mathematical intelligence, interpersonal intelligence, musical intelligence, intra-personal intelligence, and naturalistic intelligence, which are based on different human skills and abilities. Therefore we generally understand intelligence as a descriptive term for the mind skills at various fields, such as the ability to reason,

solve problems, think abstractly in order to understand the ideas, use appropriate language and learn. Two important indicators used to measure intelligence are: intelligence quotient (IQ) which determines the level of intelligence as a relation of “mental age” provided and calendar age, and the hierarchical model of complexity (MHC) which is an index that measures how complex is a certain action or a behavior. Intelligence is also related to other factors as well, for example; according to some studies it is shown that atheists have higher IQ scores than liberal religionists and even higher when compared to dogmatic religionists. According to these studies people with low IQ are more likely to be attracted to different religions than people with higher IQ. Consequently, Nyborg’s study (2009) proves that there is a correlation of 0.6 between atheism level and intelligence. Another group of intelligence components identified by Sternberg (1988, 1997) is focused on these components: practical (contextual) intelligence, creative (experiential) intelligence, analytical (componential) intelligence. According to Sternberg, intelligence can grow and improve through study and practice. According to another theory of Perkins (1995), intelligence is presented by three important components of intelligence levels: neutral intelligence, experiential intelligence, reflective intelligence. Gardner (1993) suggests not seeing intelligence as a one-dimensional construct but rather as a series of multiple intelligences as: verbal-linguistic, logical-mathematical, visual-spatial intelligence, bodily-kinesthetic, musical-rhythmic, interpersonal, intrapersonal, and naturalistic. However, the good news is that intelligence can be improved and the Instrumental Enrichment Program developed by Reuven Feuerstein has been built precisely on this assumption which has been applied in the United States since 1978 and continues to be used in other countries in the world as well in other languages. Accordingly, only in the United States thousand of teachers have been trained to use the program and each year about ten thousand students benefit from it. Feuerstein’s Instrumental Enrichment (FIE) is a classroom curriculum developed to be used with the aim of promoting the cognitive functions which will help academic learning and achievement. This program is based on the fundamental theory of Reuven Feuerstein (since the 1950s), who considers intelligence as changeable and modifiable, and not static or fixed. Therefore, this program aims to improve skills in fundamental thinking, so that students will be most able to acquire and apply concepts, skills, strategies, operations, techniques and tools for finding out how to learn and do better at learning.

### **3. Methodology**

The study was conducted at the University of Vlora on several dimensions of students intelligence of bachelor's degree in business administration and professional master's degree in public administration. The intelligence' dimensions studied are: verbal skills, numerical skills, logic skills, creative skills, and memorization skills. The study aimed to explore and identify the students' skills of bachelor's and master's degree and analyze the existence of any correlation between students' skills and their final assessment in courses taken during the relevant period. The questionnaire was distributed to the third-year students of bachelor's degree during their last term courses before graduation process, as well as to students of professional master in public administration. The study data were collected via direct assessments conducted to students about the five categories of examined skills. The set of data that was constructed at the end of data collecting and processing was elaborated by a standardized number of correct answers that every sample's student had given to questions of each analyzed structure. The final grades in the subject of Human Resource Management for the students of master's degree and final grades in the subject of International Business of bachelor's degree were considered as a data measure for the academic achievement and student assessment results (accordingly, has been analyzed the correlation each of the categories of skills with academic results).

### **4. Data Analysis**

The study sample includes 64 students of bachelor degree out of 70 students in total who attend the 3rd year, but four students' data were excluded from data processing because of distortions. The study measured the verbal skills, numerical skills, and logical reasoning, creativity and memorization skills at students of bachelor degree. The 0-10 scale used for skills measurement, indicate none correct answers by 0 up to 10 for all the correct answers. At the end of data processing and analysis, there was a number of significant findings worth to be commented on and discussed in relation to this empirical research. After data processing and analysis from their descriptive statistics we can comment on some important results which can be seen in Table 1. For example, the minimum range equal to 0 for the measurement scale of verbal abilities and logical reasoning, which has also a minimum value equal to 1 in terms of creative skills and memorization, indicating so a minimum level of correct answers for four out of five dimensions of

intelligence or skills measured in the study. If you examine the averages of correct answers, the average result of logical reasoning is 1.86 where the maximum of correct answers is 6 (out of 10 questions of logical thinking). This indicator is quite weak for the students of bachelor's degree not only for the average index but also for the minimum rank value 0 out of 10 potential measurement scales of this skill. However, memorization skills result in a higher average of 5.95. (Table 1) This is a very meaningful figure since it indicates students' orientation towards reproduction of academic materials which has been also one of the most typical students' traditional learning skills in Albania.

**Table1: Students' Skills, Bachelor's Degree**

|                     | N  | Minimum | Maximum | Mean   | Std. Deviation |
|---------------------|----|---------|---------|--------|----------------|
| Verbal skills       | 60 | .00     | 9.00    | 4.4667 | 1.98696        |
| Numerical skills    | 60 | 2.00    | 9.00    | 5.6000 | 1.99321        |
| Logic skills        | 60 | .00     | 6.00    | 1.8667 | 1.38352        |
| Creative skills     | 60 | 1.00    | 7.00    | 3.4833 | 1.30827        |
| Memorization skills | 60 | 1.00    | 9.00    | 5.9500 | 1.91714        |
| Final assessment    | 60 | 4.00    | 10.00   | 7.3667 | 1.92192        |
| Valid N (listwise)  | 60 |         |         |        |                |

The average assessment of the sample students' group at the end of the course is 7.3667. The study has also analyzed the correlations between skills and academic students' assessment. The study reveal that there is a correlation of 0.438 between verbal abilities and students' assessment, where students' verbal skills have an average index of 4.46, resulting in an average level of verbal skills. Between numerical skills and students' final assessment is found a correlation by 0.65, which is even stronger than the verbal skill-assessment correlation. This study indicator is of high interest, since numerical skills can be so distinguished as a factor to improve students' results and achievement in academic courses. Correlation coefficient between logical reasoning and assessment by 0.612 is comparable to numerical skills-assessment correlation, therefore the logical reasoning is considered as an important indicator of research to improve students' academic

achievement and assessment during the academic term. A correlation by 0.468 between creativity and assessment is comparable to the correlation 0.438 between verbal abilities and assessment. A high correlation index by 0.603 is also found in the relation between memorization skills and assessment comparable to the correlation index between logical reasoning-assessment (0.612) and of numerical skills-assessment correlation (0.65). These three types of skills (creativity, memorization, logic) present a correlation coefficient with students' academic assessment over an average level. The size or proportion of three or fewer correct answers of questions that measure various intelligence skills or structures is considered as an important study statistics, for example nearly 10% of students have given three or fewer correct answers regarding memorization skills, 23.3% regarding numerical skills, 38.3% regarding verbal skills, 56.7% regarding creative skills, and logical reasoning which comes first with 85% of correct answers.

The study was also conducted to students of professional master's degree in public administration. The study sample has selected the master's degree students of the first year, and included only 47 students out of 69 in total (but four of them were excluded from the data analysis). The data processed has resulted in some important descriptive statistics to be discussed. (Table 2)

**Table 2: Measured Skills, Professional Master's Degree**

|                     | N  | Minimum | Maximum | Mean   | Std. Deviation |
|---------------------|----|---------|---------|--------|----------------|
| Verbal skills       | 43 | 1.00    | 8.00    | 4.5814 | 1.91774        |
| Numerical skills    | 43 | 1.00    | 9.00    | 6.7674 | 2.00994        |
| Logic skills        | 43 | .00     | 5.00    | 1.4186 | 1.27676        |
| Creative skills     | 43 | .00     | 7.00    | 3.3953 | 1.72018        |
| Memorization skills | 43 | .00     | 9.00    | 7.0000 | 2.18218        |
| Final assessment    | 43 | 4.00    | 9.00    | 6.9767 | 1.71115        |
| Valid N (listwise)  | 43 |         |         |        |                |

The minimum values of correct answers from 0 for logic skills, creativity and memorization skills, and 1 for verbal and numerical skills are an important statistics of the study. Logical reasoning has the lowest average in the sample of

about 1.14 correct answers, similar to bachelor's degree students or even lower (that results by a statistical average of 1.86), while the maximum range of correct answers for this skill in the master's degree sample is 5 (out of 10 possible answers that form this structure). At the same time the minimum range of correct answers is 0 similar to bachelor's degree sample. The average of correct answers for verbal skills result in 4.5814 and for creativity is about 3.3953 (Table 2), which can be interpreted as moderately satisfying results, while memorization skills with an average of 7 and numerical skills with an average of 6.7674 have the highest averages. However, the average measure of logical reasoning skills of the students of master's degree is considered critical. The academic results, the academic achievements or students' assessment of the course (in the subject of Human Resource Management) during the period of skills assessment resulted with an average measure of 6.97. The size or proportion of three or fewer correct answers of questions that measure various skills or constructs is also considered as an important study statistics, for example nearly 34.9% of students have given three or fewer correct answers regarding verbal skills, while 9.3% regarding numerical skills, 93% regarding logical reasoning, 53.5% regarding creative skills, and 9.3% regarding memorization skills. In the correlation statistics of verbal skills-assessment in professional master's course is evidenced a weak negative relation by a value of -0.01. There is also a weak correlation of about 0.185, between numerical skills and assessment in professional master's course. The correlation between logical reasoning and assessment of students in this course is noticed to be the strongest with by a value of 0.408. The correlation between creativity and assessment to this group of students appears weak 0.27; however it is rated third among the correlations studied. There is found also a correlation by 0.3 between memorization skills and assessment of professional master's degree students which is although not very strong but it is rated second according to the strength of skills-assessment connection for the students of this course. Numerical skills in bachelor's degree are very important because they have a result of the largest size with students' assessment correlation and therefore the highest average of correct answers (referring to the structure that measures students' numerical skills).

**Table 3: Ranking of Averages and Student Skills-Assessment Correlation, Professional Master's Degree**

| Skills       | Correlation | Rating | Mean   | Rating |
|--------------|-------------|--------|--------|--------|
| Verbal       | -0.01       | 5      | 4.5814 | 3      |
| Numerical    | 0.185       | 4      | 6.7674 | 2      |
| Logic        | 0.408       | 1      | 1.4186 | 5      |
| Creative     | 0.27        | 3      | 3.3953 | 4      |
| Memorization | 0.3         | 2      | 7      | 1      |

Logical reasoning skills come second regarding students assessment correlation and 5th regarding average. While memorization skills come third regarding correlation statistics and the first regarding average of correct answers. Logical reasoning has the strongest correlation with student assessment variable in professional master's degree with an average value (index) of 5 correct answers. Memorization skills are second regarding this correlation and have the highest average, while logical skills have a strong correlation with assessment in both degrees (bachelor and master), although their average ranking is the lowest. (Table 3) Therefore, for as much as the average value of logical reasoning and correlation in bachelor's degree is higher compared to professional master's degree, this explains the high assessment and academic achievement of this course (referring to the sample's student of bachelor program).

## 5. Conclusions

All intelligence skills and analyzed dimensions and their correlations regarding the academic results in respective courses are significant and enable us to observe, describe and judge this issue better. Students of master degree course result with lower academic achievement than the bachelor's degree students and this is mainly attributed to higher logical skills of bachelor's students which have maximized their academic results. Logical reasoning comes second in bachelor's degree for the correlation strength with academic results, but has the lowest average, while in professional master's degree it comes first for the correlation size but it also has the lowest average. The average of bachelor's degree students is slightly higher than

the average of professional master's degree, and thus it brings a little difference in course assessments and academic achievement.

The main hypothesis of the study suggests that:

“That improvement of intelligence skills during the study period is important for achieving better academic results and for preparing proficient professionals.” Student performance can be improved effectively by integrating programs that develop intelligence that can be measured by various intelligence assessment tests. Curricula intelligence implementation in Albanian higher education system is not yet on the right path despite the importance it has on human capital productivity and as well as academic results. Higher education structures, academic programs and teaching methods should promote the application of intelligence curricula and also the improvement of students' intelligence capabilities. The programs or curricula that improve students' skills and intelligence need to be integrated at least during the first years of bachelor degree to stimulate the learning process and improve students' academic outcomes and interdependently their career abilities. Given that lecturers will be mediators of learning in university courses, they should be prior trained in how to teach students to think analytically, strategically, and to understand and elaborate more efficiently concepts presented in classes and also learning better. So, there is evident that in Albanian education system needs change, such as curricula enrichment (by adding intelligence curricula) to enhance academic achievements of future students.

This study aimed to attract the attention researchers about this issue to extend this study in a wider context of Albanian education system, to impact, to develop and strengthen the intellectual capacity.

Limitations and recommendations for future studies

1. It is important that future studies be directed across all the country including even other universities, and also for a good representative study sample, and valid results, the study should be organized in the form of a longitudinal research.
2. The concept and the importance of improving the intelligence in the Albanian context is still a 'novelty' compared to other countries such as Israel, Japan, USA etc., so future studies needs to be addressed and extended on the whole educational system of the country, including other educational levels.

3. The more complete future studies should be organized and undertaken (furthermore on national rank) by Higher Education institutions themselves, because of the high costs of individual researches and their partial results.

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