

THE PARADIGMS OF STUDENTS' POTENTIAL AND THE EDUCATIONAL CAPITALIZATION OF LIFE LONG LEARNING

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***Abstract:** The paper reflects on the development of the concept of potential as approached in psychology, education, anthropology, sociology and cultural studies with emphasis on the educational capitalization of it. From bio-psychological traits to intelligence, values, attitudes and competences of various degrees and levels, from unexperienced to expert level a whole universe and diversity makes the raw material education has to approach and shape. The paper has as point of departure key concepts since the emergence of modern psychology to cognitive psychology with reference to representatives such as Alfred Binet, Jean Piaget, Robert J. Sternberg, Howard Gardner and examples from educational practice specific to the Romanian educational context. The examples reflect upon the application of multiple intelligences theory in a secondary school and the attitude to finality model based on competences, values and attitudes specific to teachers' training programs (kindergarten and primary school teachers, secondary and high school level) within the Romanian educational system. The present challenges such as actual threats represented by the sharp drop of birth rate, decrease of school population, emigration, functional illiteracy, social, cultural and economic transformations since globalization bring to the front line once again the importance of a flexible and dynamic educational system able to respond to ideals and threats. A review of specific literature, application of multiple intelligences theory and the questionnaire method for the attitudes towards competences, values and*

attitudes of students in study programs for a career in education are the methods that provided data from the field in order to support the paper.

Key words: *potential, intelligence, training, education, profession.*

Introduction

Pedagogy has as its object of study education. But education in turn and as such is a manifold concept ranging from subjective to objective manifestations and accomplishments. None of these are possible outside the human being groups and its individuals. These as well are subject to diversity, grades and degrees of characteristics from age to age, from period to period from one culture to another, from one group within a culture to another within the same culture or different one. What is characteristic to an individual and a group and may be representative to them could be less relevant and relevant to other individual or group therefore uniqueness and representativity are situated between subjectivity and objectivity. Whatever at the core of the individual as subject of and to education rests its characteristics which from an evolutionist point of view are contained and described in and by genotype and phenotype. Although these are generic terms the casual discussion amongst people prefer more sophisticated terms and more appealing such as talent, adroitness, smartness and a whole range of terms from this family of words above which genius reigns. In deed even these terms have various connotations and meanings and although they represent the full part of the glass there is a whole variety at the opposite side and between these two psycho-pedagogical terms and their related sciences and practices have their action ground. Therefor it is appropriate to discuss in terms of potential and its dynamics although both terms are derived from the classical Greek (*dynamis* - force, *dynamikós* - strong, *dýnamis* - power) and Latin heritage (potence - *potens*, *potentis*, potential - *potentis*). Very few are aware at any level of the discussion of the importance of these meanings. Talent, adroitness, smartness, genius represent a potential. Dynamics is a characteristic of its manifestations from emergence to fully accomplishment. Although people tend to see the positive and optimistic side of the potential's dynamics there is also regression, there is also set back, unexpected factors which can slow it down, break it, stop its progress, destroy it or throw it into oblivion due to other priorities of its age. Students' potential is at the core of a fam-

ily's concern, educational system policy, society's aim and ideal in order to sustain its development and fulfillment for individual and social progress. But from desire to proper realization is a long way very often paved more with good intentions than actual responsible measures to support its growth and development in from of many perils that threat its favorable course. One of the reasons which contribute to the capitalization of the potential in a proper way is the departure from the scientific way which psychology and pedagogy reveals us in relation to potential and its diverse complexity. Parents and educators, experts and members of the society concern with are not excluded from going astray when it comes to approaching it is a right way if there is such a guaranteed path or way.

Intelligence and its surrounding world of conceptual diversity

Although a favorite topic and term that raises great interest among parents, students and educators the history of intelligence is vaguely a substantial part of curriculum for teachers, educators or other specialists in and of the field. Despite the great interests for such a term and concept when it comes to associate it with a particular meaning usually the discussion comes to an end amongst educators and those concern with. The popularity that short intelligence test gets in the boulevardier press does not help the core of education where it lays. Psychology curriculum deals mainly with the primary and superior processes and measurement and tests comes later on when one chooses to specialize in psychometrics. Another aspect of the matter is represented by the industry intelligence tests rests on. The acquisitions of test and the whole software are an extra addition to school budgets linked to the difficulty of having provided enough specialists trained and certified for the batteries of tests in use. All in all the practice of testing and grounding instruction of some proper measurement seems doomed for objective reasons. If the test industry is developed in some parts of the world more or less the transposition of these in different cultures implies makes appeal to more complex issue namely the validation of one approach different typology of subjects that originally developed. These are not estranged problems and barriers to the specialists. These are barriers for educators and communities whose hopes are not sustained by all the peculiarities of psychometrics, software and instructional design based on a more accurate

knowledge of the nature and level of potential although this knowledge does not represent a guarantee for its future fulfillment. What is quite sad is that in the absence of these sometime educators and those concerned being subjects or their parents seek refuge and ground their action on more empirical thought and sometime even practices. A simple philosophical approach would enlighten the matter which only to take as a starting point the Greek philosophy represented a permanent concern for philosopher from Socrates to Kant. The instructional models of them hold intelligence at the core of heuristic approach, maieutic technique or the whole Kantian range of taxonomy of truth belonging to his classic by now criticism. As the 19th century draws to a close it not only establishes the Psychology as a science but from pre-evolutionary background (i.e.: Erasmus Darwin(1731-1802) and Johann Wolfgang Goethe (1750-1832) and its fulfilment in the theory of evolution (Charles Darwin (1809-1882) and Alfred Russel Wallace(1823-1913)) it mark also the progress from phrenology and study of characters (Johann Kaspar Lavater (1741- 1801)) to eugenics, anthropometry(Sir Francis Galton(1822-1911)) and psychometry. This is the background for the pioneer work of Alfred Binet (1857- 1911) and Joseph Simon (1873-1961) and Robert Yerkes (1876-1956). The first attempts to measure intelligence have established a direction and a fundamental background that is difficult to challenge. The role played by linguistic and logical mathematical intelligence and direction for curriculum as were emphasized by the constructs the first tests took to consider as fundamental. From this line of development it is easy to follow all the developments that took place in the 20th century. And the challenge via the work of L.L. Thurstone (five factors of intelligence) to Howard Gardner (multiple intelligences). To these other planes of research need to be added the multiple models of thinking developed by J.P. Guilford, the models and contributions of digital computer and nuclear technologies for medicine which extended our knowledge of brain functioning among other aspects. The emergence of such a level of technology and diversity of theories makes it difficult for the educational systems to be able to embrace and apply them in all their depths. However didactic models are applied and during training sessions and seminars programmes for teachers are designed and developed and in order to ensure the applications of these in educational and instructional activity. Therefore exaggerated hopes placed upon one or the other of such theories is doomed from the start as only a coherent policy with regard to instruction can ensure the success of such

complex scientific issues when applied to system level. Despite these individual initiatives on research and applications of such issues are still important as they are meant to maintain the research competences in practice and to offer fresh examples of the situation here and there at one or another moment and to inform the system about its functionality at various level and stages.

Multiple intelligences applications an example of educational practice

Application of the theory is bound to the challenges the educational systems are caught in worldwide. If during the last decade of the 20th century and the first decade of the 21st century a wide interest towards this theory was manifested the administration of PISA tests and reports generated a different subject of debate and transformation. European paradigm of Life Long Learning and the cardinal model based on eight key competences are two fundamental backgrounds against such developments in educational science has to stand up. Other emergent themes are blended learning, active learning, emotional and social intelligence. Another aspect that has to be emphasized is the relationship of all these models with past issues in psychology and education. It is disappointing to see that in relationship to these concepts and theories very few links to their historical and scientific development is done during preparation of students and future teachers and during the programmes regarding continuous training of teachers. Most of the issues seem real novelty meanwhile from an ontological point of view they are but a continuation of long-term research activity. The application of the theory I approached was based on MIDAS Questionnaire although many are reluctant as to test measurement. The groups applied to were students in the secondary school grades 5th to 8th. The Questionnaire produced profiles that made evident the eight types of intelligence and their constructs according to the structure considered through them for each type of intelligence. The results were used in the main stream curriculum with activities design for three subjects Romanian Language and Literature, English Language and Mathematics. Observations were conducted for students that were studying a musical instrument and overall extra-curricular activities and other results from competitions and various other activities with educational and cultural relevance students were doing. The whole activity took place while in the educational system were taking place various changes specific

to the educational reform. The instructional system used was basically grounded in the theory of educational objectives (B. S. Bloom)(cognitive, affective– attitudinal, psychomotors) and was about to change several years after this application to the model based on competences (general and specific), values and attitudes. A comparison of MIDAS profile to the students' results yearly and overall was done. A striking observation from those less concerned with was the relationship of correspondence between scores and educational and instructional results. Most parents expected high scores in most situations. Beside the activity conducted in the classroom some meetings with teachers and parents took place and there was a little bit of the theory and education theory for everybody. Such enterprises of course require a little bit of apostleship work but it is worthwhile to be part and generate such an experience. In research and applications schools these may be the norm and the general routine but otherwise the main stream of schools within the system are less exposed to such novel activities and events. Classroom activities were another source of data - the scores provided by the profiles were used both in the frontal activities and in level groups. Comparing test and re-test results provides data on changing the composition of levels within each type of intelligence. The problem is the large number of students - the difficulty of being able to strike a balance between the number of students who solve exercises or problems on the board (the number of students who want this is large) during an hour (or) of classes. Group activities were preferred by students. The problem is how many references can be made directly to aspects of the theory of multiple intelligences. What would be the reason - the desire to solve as many exercises and problems as possible, correcting mistakes, etc... I do not think the theory should be exposed in every hour - the problem is to emphasize the practical importance of the contents that are used to achieve within each discipline. One can appeal to the proverb "*We do not see the forest because of the tree.*" The preoccupation with doing a lot neglects the practical aspect of using what is learned. The classical pedagogical principles (from simple to complex) prove their efficiency - frequently used - in mathematics classes there is a graduation from simple to complex of their exercises and the problems approached and proposed to be solved every hour. The difficulty arises at the complex level (which requires critical thinking and divergent thinking) - here were noted a number of 4-6 students (S 6, S11, S 18, S 23, S 20 and S 21; S = student, according to the grade catalogue/register from experi-

mental/application group) who managed to solve these problems, to find more solutions to analyze them, to explain them. On the one hand, the need for students to have a better training in learning techniques was highlighted (calculating a result is different from finding two alternative solutions to a problem - hence references and explanations to what the exercise is, problem solving, the role of small tasks, and emphasizing the danger posed by "routine"). A positive aspect was the request for students to compile lists of questions on issues they did not understand and to discuss these questions. In the situation of linguistic intelligence, the Romanian and English language and literature classes highlighted other aspects. First of all, teachers use differentiated treatment and group activities to a greater extent. A first explanation consists in the fact that they have participated in training courses in this regard and capitalize on these experiences, a greater personal concern in this regard as well as the use of internet resources. The "big problems" are also the tendency of students to achieve a lot and hence inattention to "tasks" and "small steps" in performing work tasks. Another aspect is the presentation of the answer or the paper - even if he knows the answer or can give an explanation, make an analysis, proper comparison there is a tendency to give short answers believing it is enough - hence the attention of teachers in explaining the importance of communication, detail. In the case of English language and literature, a problem is the fact that students take different terms from TV shows, writing materials, books - and use them either in the lesson or in homework or work, often incorrectly. This aspect is frequently emphasized by the teacher - students receive appropriate explanations. Although the test results take into account 3 items (linguistic sensitivity, writing, reading) a more comprehensive interpretation must take into account the correlation with the scores obtained on the items aimed at communication, and last but not least interpersonal and intrapersonal intelligence. The aspects related to mathematics classes must also be correlated with the data provided by the scores on spatial intelligence. During the geometry classes, the students demonstrated that they use very well the tools for drawing geometric figures, they build and represent correctly. Last but not least, I would emphasize the teacher's pedagogical style and a special predilection for teaching geometry. A special situation is represented by extracurricular activities. There is a large category of extracurricular activities that students carry out. Some are of a lasting nature, others are temporary. On the one hand, they also reflect the students' searches and desire to explore.

The problem is the time allotted to them and their relevance. There is an impression that sometimes they fall between two limits of spending their free time efficiently and that of adding to the effort. Discussions were held from this perspective with both students and parents, as well as questions regarding these activities were included in the interview and the questionnaire for parents. Last but not least, the type of these activities is determined by the possibilities and the local offer (Sports School, Sports Clubs, Students' Club). Interpretation of the results after the test and retest if at first sight it does not seem to show a change in high quantitative level in the case of the two intelligences (linguistics, mathematics) there is a change in naturalistic intelligence and on the other hand a change in interpersonal intelligence (S 6 and S 18 professional orientation towards communication). I also understood the results of the initial test regarding naturalistic intelligence as a concern for the natural environment, love for nature, desire to be in the middle of nature caused by social living conditions, long time spent indoors due to the climate of the area (long winters, rainy springs and autumns, short summers; the Jiu Valley, Hunedoara county, Romania area having the highest percentage of humidity). There is another finding, however, on the one hand a real interest of students in natural sciences, love for animals. In this sense, the desire of at least two students (S 10 and S 15) in this category to orient towards a professional career in the field of natural sciences is manifested.

Conclusion

One conclusion is that these applications show before everything that if their results are to last these need to be a part of the educational policy be as it may the school is in a centralized system or is part of autonomous educational policy. Whatever these managerial situations are they have to provide the resources and regulations the school as such has the human and material resources to carry on such activities as part of an activity that sustains the curriculum at that particular moment of time. From the instructional point of view such an application it helped to view, correct and ameliorate practices while making relevant the actual activity. I was fortunate to be able to perform this application within a secondary school with very cooperative staff and students whose enthusiasm from testing to activities was encouraging and uplifting.

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