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THE THEORY OF MULTIPLE INTELLIGENCES – A KEY INSTRUMENT FOR TEACHERS FOR AN ACTIVE AND DIFFERENTIATED LEARNING IN THE KNOWLEDGE BASED SOCIETY

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Abstract

The knowledge-based society means well educated citizens who are able to know what to do with the knowledge they've got, make quick and good decisions, solve problems, face challenges and unexpected events in their lives, master their emotions, continuously adapt themselves and know how to learn, citizens who are tolerant, autonomous, creative, flexible, responsible, collaborative and environmentally friendly. The Romanian pupils' results at PISA 2012 survey show that Romanian school still needs a lot of improvement in order to prepare students for the modern world. That is why we believe that the Theory of Multiple Intelligences would be a well-suited approach for helping teachers in this respect.

Key words*:* active learning, competences, education, multiple intelligences, teacher

1. Introduction

Education has nowadays become the crucial factor for the development, well-being and world level competitiveness of a country. Unlike the times when only few people in a state acquired knowledge and skills and that were enough, the fast changes in today's society and the ever-growing improvements in technology have dramatically switched the focus on the imperative necessity of personal and professional development. Now more than ever, every citizen must be well prepared and trained in order to get a better job for a better life, make good decisions, face all sorts of challenges, solve problems and deal with unexpected events.

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As stated by the *European Framework for Key Competences for Lifelong Learning*, adopted by the Council and the European Parliament at the end of 2006, all people should ideally learn and hold eight key-competences, namely: communication in the mother tongue, communication in foreign languages, mathematical competence and basic competences in science and technology, digital competence, learning to learn, social and civic competences, sense of initiative and entrepreneurship, cultural awareness and expression. At the same time, the *European Strategic Framework for Education and Training* (‘*ET 2020’*) and the European Union’ s growth strategy for the coming decade (‘*Europe 2020’*) also stress the high importance of education for the years to come, by setting four common objectives: making lifelong learning and mobility a reality, improving the quality and efficiency of education and training, promoting equity, social cohesion and active citizenship, enhancing creativity and innovation, including entrepreneurship, at all levels of education and training.

Unfortunately, the Romanian educational system does not seem prepared to face the new challenges of the knowledge-based society yet. Among the multitude of proofs in this regard we will focus on the latest results of the Romanian pupils at the Programme for International Student Assessment (PISA). As explained in the document *Key Data on Education in Europe 2012*, “PISA is an international survey carried out every 3 years by the Organisation for Economic Cooperation and Development (OECD) to measure the performance levels of pupils aged 15 in reading literacy, mathematical literacy and scientific literacy, “what do they know and what they can do with what they know”. The survey is based on representative samples of 15-year-old pupils, who may either be in lower secondary or upper secondary education, depending on the structure of the system”.

The PISA 2012 survey included 65 countries and around 510.000 pupils between the ages of 15 years and 3 months and 16 years and 2 months. Romania holds the 45th position at Mathematics, 50th at Reading and 49th at Sciences. The main results show that almost 40% of the Romanian pupils have difficulties in learning and understanding a text and are able to solve only basic Maths exercises, 73% of them answered “I feel lonely at school” and Romanian pupils are, by far, the least motivated of all. So, it appears that Romanian pupils still get a lot of knowledge but few competences that is they can barely use the information received at school in real life. We also see that they are alarmingly unmotivated, far beyond all the other pupils in the 64 countries involved in the survey.

A key element with a crucial impact on pupils` performance is the human resource, namely the teacher. Teachers` training is the starting point for a new education and a new teaching approach

in the classroom. The 2012 PISA study concluded that Asian countries, which have the best education system in the world, give special attention to teachers' selection and training. Once more, Romania lacks in this respect, because:

- Educational policy does not encourage the keeping of the best graduate students in the educational system because of the very poor salaries ;
- The system of teachers` selection is very permissive : anybody can get a certificate for psycho-pedagogical competencies;
- Psycho-pedagogical training of the future teachers is marginal compared to their main speciality training, so the graduates do not possess the required methodical knowledge and practices in order to be able to tackle the educational realities in the classroom ;
- The initial and in-service teacher training are not updated in terms of the contents they propose : they show very little to teachers of how to apply the latest psychological theories/findings in the classroom. The application of these theories would decisively contribute to the growth of the pupils `performance, but an adequate pedagogical context is needed for that.

2. Educational experiences using The Theory of Multiple Intelligences

The Theory of Multiple Intelligences emerged in 1983 and was proposed by Professor Howard Gardner from Harvard University, USA. Initially meant for the Psychology field as a new approach to understand intelligence as a multidimensional concept in the line of Thorndike's and Guilford's multi-factored approach to intelligence, the theory proved to have a huge and unexpected success in the field of Pedagogy among teachers, special educators and school masters, being quickly incorporated in schools all over the world.

In a very brief presentation, we will now remind the fact that the Theory of Multiple Intelligences says that any person possesses at least 8 types of information processing or intelligences, relatively independent of one another – as they are controlled by different cortical zones – and existing at different levels of development which form a unique cognitive profile for each person. These intelligences are: linguistic, logical-mathematical, musical, spatial, bodily / kinaesthetic, interpersonal, intrapersonal and naturalistic. Howard Gardner (2006, p. 14) defines intelligence as "a biopsychological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value in a culture". The author believes that human

intelligence is more extensive than reducing it only to two of its perspectives, namely the linguistic and logical-mathematical ones that are now mainly taken into account in schools in teaching and testing pupils. Gardner writes: "I balk at the unwarranted assumption that certain human abilities can be arbitrarily singled out as intelligence while others cannot" (Gardner, 1998).

Leaving aside the frequent debates between the concepts of "intelligence" and "talent" – for instance, some say that there is no musical intelligence but only talent for music, although Gardner has clearly stated the conditions for defining an intelligence and demonstrated that humans also display musical intelligence –, we shall further focus only on several of the empirical findings about the use of the Theory of Multiple Intelligences in the classroom, as reported by different educational agents.

Don Comeau (2005) talks about a research done in the United States by John Goodlad from the Centre for Educational Renewal at the University of Washington. The study has involved more than one thousand classrooms and the results showed that approximately 70% of teaching time is consumed by lecturing. Thus he remarks further on that the most used teaching method in the public schools is (still) linguistic transmission. Therefore the same reality from the Romanian schools can be found also across the Ocean and the explanation is that the teachers nowadays do nothing else but repeat the teaching model they themselves had been exposed to. That is why Comeau concludes that from his point of view the Theory of Multiple Intelligences brings an invaluable contribution to the pedagogical field by enlarging the approach of the teaching manner to a much wider perspective than the one offered previously by the linguistic and logical-mathematical ones. Then he cites Gardner who believes that a skilled teacher is that one who can explain the same concept by using various perspectives (1993, p. 204), because in this way they succeed in reading more students according to their particular understanding and learning style. (Gardner, 1999, p. 168). Theory of Multiple Intelligences is about differentiated learning and subsequently about enhancing each child`s potential. As its author himself underlined, it supports "education that takes individual differences seriously and, insofar as possible, crafts practices that serve different kinds of minds equally well" (Gardner, 1999, p.151).

Thomas Hoerr (2003) is the director of New City School from City of St. Louis, Montana, USA. He and his colleagues found out about the Theory of Multiple Intelligences in 1988 and since then they keep on applying it into their teaching and learning process with their pupils from 3 up to 14 years old. He remembers that what impressed them most from Gardner's theory were first of all the statement that there is not a single way of learning but several and secondly the focus

put on the arts who were until then almost neglected in the teaching and learning process. Besides they were also fond of Gardner`s belief that "who you are is more important than what you know", related to the importance of the development of the personal intelligences. They are continuously working and improving their work by using Multiple Intelligences approach and the results are very good.

After so many years of practicing the Multiple Intelligences approach at New City School, their main conclusion is that this theory clearly shows that each child has its own particular manner of learning. That is why each teacher should have this in mind when applying and trying to develop the curriculum. On the other hand one must not misunderstand that this theory diminishes the importance of the linguistic and logical intelligences, on the contrary. Either does it neglects the pupils or lower the academic standards, but simply demonstrates that the traditional pedagogical approach was too narrow and that there are many more ways to teach and learn.

At New City School they use the Multiple Intelligences Theory in the teaching and evaluation process and also in curriculum-based and intelligence-based centres. In teaching they deliver the contents from a multidimensional perspective by using various types of intelligences at the same time. For instance a history lesson might be very well realized, besides speaking and writing, by using also theatre, music, photographs or images from that specific age, by playing roles or performing a show in the classroom in order to better understand and retain the information. When studying biology at New City School pupils can also use clay or coloured paper or costumes either to create or to turn into animals or plants or cells or bones etc in order to ease the reasoning and also the memory process. Singing songs of a specific period of time is also a good way of fixing the knowledge and the concept of ratio might be easier understood by using life size shapes of different objects made by paper and tape where the kids might enter in order to be able to compare thus the different sizes. These are a few of the multitude of techniques used in this school and the results are always very good in terms of learning process. Teachers here permit their pupils to use their main intelligences but also aim to develop some others, so they continuously encourage them to make use also of those ones they are not at ease or that are not very well developed yet. In their written papers and research reports the children must use at least four intelligences, not only the dominant.

When working in centres teachers offer pupils the chance to work taking their time by dividing the curriculum into smaller units. The centres are used during all the school period but they are more used in the early years with the little ones. One can find different types of centres as follows: intelligence-based centres, curriculum-based learning centres and the Centennial

Garden. Intelligence –based centres are meant to help pupils develop a particular intelligence, while the curriculum –based centres focus on a specific part of the curriculum in order to be better understood and fixed. There is a centre for each of the intelligences and each one provides pupils a lot of distinct activities.

The third type of centre, the Centennial Garden is a huge piece of nature next to school where children have the possibility to plant trees and flowers, to take care of them and to watch them growing, to climb some rocks, to have a rest in the grass or sit in a pavilion on bad weather, but also to learn or do their homework. This is very important especially for the pupils who live only in the city among concrete buildings and have very few opportunities to enjoy a natural setting. The garden stimulates the development of naturalistic intelligence and they noticed that some children significantly improve their results in the other subjects when studying in the garden.

At New City School teachers use a lot projects, exhibitions, and presentations (PEPs) and include also the Theory of Multiple Intelligences into the assessment process. The studies in each grade end with a PEP. The preschoolers might build for instance life-size bodies with "hearts" and "lungs" functioning in order to show that they have understood how their body works. The older ones might perform a show about the Native American inhabitants` living habits or might play the paper of some famous American people.

The inclusion of the Theory of Multiple Intelligences into the New City School current practices has been considered by every actor of the educational process: teachers, pupils and parents as being extremely helpful. The reading of Gardner`s book in 1988 proved to be not a singular didactic activity of informing oneself about the latest theories in psychology and education but the beginning of a long and rich learning process for all the teachers there . All the discussions and exchanges of ideas of putting it into practice in different creative ways strengthened the school team and since then the teachers are far more collaborative and continuously learn from one another. School performance must be improved from inside, they agreed. Now the teachers from New City School are not simply providing the contents to their pupils but they have become experts in education, being able to create curriculum and also tools for evaluation.

As a brief conclusion of this presentation of New City School good practices with the Theory of Multiple Intelligences, we will quickly remind the main approaches: each student has an unique cognitive profile made by the eight intelligences developed at different levels and the classroom is pupil-centred. Teachers use and constantly improve all children`s intelligences in a constructivist manner. Students are helped to create meaning, to understand, to be active, curious and to have initiative. Arts and personal intelligences are valued as much as the other types of

traditional intelligences. Teachers create curriculum and assessment tools –which incorporate Multiple Intelligences and they develop collegiality by working as a team with colleagues in using Multiple Intelligences and finding new examples of activities and didactic strategies.

The result is that the pupils from New City School pass all the tests with very good marks, including the standardized one. But besides the academic performance they also enjoy learning and exploring, are motivated and curious, take leadership positions in the secondary schools they go after , get involved into the community and keep on analyzing themselves and defining themselves and learners. This is not exclusively the result of the multiple intelligences approach, but the role of this approach is very important and recognized as such both by pupils and by their parents.

New City School has got more and more the reputation of a school where pupils learn a lot but also enjoy learning, a school which prepares the children for an uncertain future and for un-invented yet professions. Besides improving collegiality among the teachers' team, the way of teaching and the way of assessment, the Multiple Intelligences approach had also a huge contribution in improving the communication with the pupils` parents.

That is why at New City School Gardner's theory is more than a simple theory of intelligence, as it turned into a "philosophy of education with implications for teachers, administrators, students and their parents".

Looking now to another part of the world we find out that, according to Chen (Chen, 2006) "in China, the Theory of Multiple Intelligences is very popular and prevalent among Chinese educators". We must remember that Chinese pupils have got the highest scores, being on top at the PISA 2012 survey. But, the theory was not taken into consideration in this country in the very beginning. It took almost 11 years since the first publishing of the Chinese version of *Frames of Mind* in 1990 until the Theory of Multiple Intelligences was suddenly rediscovered and embraced like the frame for the education reform as stated in the document "Outline of Curriculum Reform for Compulsory Education" issued by the China Education Commission in July 2001. Immediately after, in 2002 the project *Using MI Theory to Guide Discovery of Students' Potential w*as selected as a" key research and development project". This implied financing and national wide cover. Participants from all the country got involved and "a systematic and large-scale implementation of MI in Chinese schools became a national priority". The project was coordinated by two leading institutions of Higher Education in Beijing and by East China Normal University in Shanghai.

There have been also reported some bad practices, but many reports from the field showed that Multiple Intelligences Theory implementation had a key role in increasing school performance, developing pupils` multiple potentials, implicating students in curriculum design and evaluation and focusing the attention on the unique cognitive profile of children from vocational schools.

Conclusions

We have seen, from the two different cultural experiences above, that Theory of Multiple Intelligences has really a great impact when used appropriately in the teaching, learning and evaluation process, both on pupils and teachers and parents. It also positively influences pupils' personal development and soft skills such as strong work ethic, optimism, good communication skills, problem solving skills, time management skills, team-work, self-confidence, flexibility. It is also very helpful in supporting the principle of internalisation (Ionescu and Chiş, 1992, pp. 70-71), according to which "cognitive structures result from practical actions. Internalisation is a psychological fact but it does not produce by itself but through a didactic process called stage forming of the mental actions and cognitive structures".

The concept of multiple intelligences also has very much in common with the key-competences foreseen by the European Parliament and Council. "Key competences for lifelong learning are a combination of knowledge, skills and attitudes appropriate to the context. They are particularly necessary for personal fulfilment and development, social inclusion, active citizenship and employment" (*Key competences for lifelong learning*, 2006). Each of the eight competencies is formed through one or several multiple intelligences. Last but not least, Multiple Intelligences represent the basis for an interactive instruction which turns the pupil into the subject of the learning process and of his/ her life.

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