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Lifelong learning and Active Citizenship

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Abstract

Focusing on the relation between Education in general and Citizenship Education in particular some key questions come to the surface: Which kinds of new trends in learning are compatible for citizenship education? Which knowledge, skills and attitudes must be protected? How can teachers and students obtain the label ' good work'? How can we avoid a dualistic approach and promote a more holistic way to link reason and emotion, personal and social development?

Our answers will be strongly inspired by the innovated approach of Howard Gardner: the five minds for the future. This model will be explained and compared with other taxonomies. Arguments will be given reinforcing the idea that all the five minds are needed. They give us a good profile of what a good citizen might look like in complex, interconnected, multi- and trans-cultural societies.

Once the conceptual background is established, we'll present an enquiry conducted with a group of international students who have been asked what are their ideas regarding work, character, interpersonal relations, values and mindsets. This will help us to recommend a number of pedagogical ideas to encourage students' active citizenship.

1. New trends of Learning

Changes in societies and environments foster changes in human beings. This is a world with unprecedented dimensions: cyberspace, global sub-cultures, global markets, global immigration flows, available knowledge doubling every one or two years, the emergence of more and more global cities and the rapid transformation of social, ethnical and cultural tissue of societies. In order to survive and adapt to the new circumstances of life, the new world and the new environmental stimulus, some basic processes of adaptation are changing. Learning, the very basis of adaptation to the environment, is being reshaped by social and environmental changes.

In his stimulating article on learning, Natriello (2007) identifies twelve trends of present modes and processes of learning and the implications of such trends for the future. After an extensive analysis of data and references the author identifies the trends as follows:

- Trend 1—learning is becoming more diverse
- Trend 2—learning is becoming more contextual
- Trend 3—learning is becoming less discipline-bound
- Trend 4—learning is moving outside of institutional settings
- Trend 5—learning is coming to span professional and institutional sectors
- Trend 6—learning is moving beyond and between nation states

- Trend 7—learning is moving online
- Trend 8—learning is moving beyond humans to machines
- Trend 9—learning is moving to machine/human blends
- Trend 10—learning is becoming less solitary and more interactive
- Trend 11—learning is becoming less concentrated and more distributed
- Trend 12—our understanding of learning is becoming more biologically connected

All together the 12 trends suggest the need to rethink learning within society and its organizations. In the society of knowledge and information, these must be reconfigured and their roles substantially changed, namely schools that are now competing with a much wider, expanded, transversal and informal learning context than in the near past. A deep change in the processes of learning implies a deep change in the processes of teaching:

> "the standards for effective learning will rise as learners position themselves in more powerful learning conditions. This means that there will be a good deal of negotiation and experimentation to determine when teaching is most necessary and under which conditions it can be most effective. […] So what are the dimensions of a reshaped role for teaching? The 12 trends in learning provide a good starting point. The new teacher will need to manage more diverse learning styles with more diverse teaching strategies. The new teacher will need to function outside institutional settings and disciplinary boundaries and orchestrate learning in contexts more relevant to learners and learning tasks. The new teacher will need to span professional and institutional sectors, reach beyond national boundaries (Luke, 2004), and operate in face-to-face and online modes. The new teacher will need to manage combinations of human and machine learning as well as learning that is generated through more extensive interactions across more widely distributed settings and rooted in a sound understanding biological processes. […]. The role of the new teacher will be dramatically different from those of current teachers." (Natriello, 2007, p. 14-15).

The same can be said about the learner, the other side of the coin. The developments in contemporary societies demand new profiles of competencies for individuals to be effective, to be able to adapt and keep a sense of purpose, self-fulfillment and worth. Because of the complexity of modern world and extreme velocity at which information is produced, distributed/ dispatched and surpassed/expired, becoming obsolete, the profiles of competencies valued and valuable in past times, the ones possessed and shown by excelling people and professionals in different fields and individuals/citizens in daily lives, can be now incomplete and inefficient.

The crucial set of competences for the present and the near future is lifelong learning, as agreed on by scholars, pedagogues and politicians. We are going to mention just a few taxonomies of great educational influence nowadays: the EU framework for Lifelong learning, the Tuning process, and Gardner's concept of five minds for the future. This will clarify how the ideal profile of individuals, citizens and professionals is envisaged and how to turn these insights into educational principles and practices.

2. Competencies for Lifelong learning: the framework for European Union

The recommendation of the European Parliament and of the Council, of 18 December 2006, on key competences for lifelong learning [Official Journal L 394 of 30.12.2006] states that key competences for lifelong learning are a combination of knowledge, skills and attitudes: "In accordance with international studies, 'competence' is defined here as a combination of knowledge, skills and attitudes appropriate to a particular situation. 'Key competences' are those that support personal fulfillment, social inclusion, active citizenship and employment." This recommendation aims to ensure that these key competences are integrated by each Member State into their education and training policies.

The key competencies are seen also as a necessity in a society of knowledge and information, allowing for individuals to adapt more quickly to sudden changes in an increasingly interconnected world. Eight key competencies, of a transversal nature, have been listed and presented as essential tools for personal development, social inclusion and cohesion, active citizenship and employment. They are seen as a major factor in innovation, quality, productivity and competitiveness. Table 1 shows these competencies and the related knowledge, skills and attitudes. These competencies are simultaneously technical, strategic, personal and behavioral and they are the very basis to further intellectual, emotional and social development and the ability to contribute positively to the development of society.

According to the recommendation, these key competences have a transversal nature and they are all interdependent. They should be approached from a perspective focused on critical thinking, creativity, initiative, problem solving, risk assessment, decision taking, and constructive management of feelings. This is the set of competencies that all young people should have acquired through the basic level of education, the one that European states agreed to be the state concern, mandatory for all children in the country.

Table1. The eight key competencies and the related knowledge, skills and attitudes

1. **Communication in the mother tongue** which is the ability to express and interpret concepts, thoughts, feelings, facts and opinions in both oral and written form (listening, speaking, reading and writing), and to interact linguistically in an appropriate and creative way in a full range of societal and cultural contexts;
2. **Communication in foreign languages** which involves, in addition to the main skill dimensions of communication in the mother tongue, mediation and intercultural understanding. The level of proficiency depends on several factors and the capacity for listening, speaking, reading and writing;
3. **Mathematical competence and basic competences in science and technology**. Mathematical competence is the ability to develop and apply mathematical thinking in order to solve a range of problems in everyday situations, with the emphasis being placed on process, activity and knowledge. Basic competences in science and technology refer to the mastery, use and application of knowledge and methodologies which explain the natural world. These involve an understanding of the changes caused by human activity and the responsibility of each individual as a citizen;
4. **Digital competence** involves the confident and critical use of information society technology (IST) and thus basic skills in information and communication technology (ICT)

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3. Tuning and the transversal competencies expected for university graduate students

The Bologna process and the project Tuning are intertwined. Both rely on the concept of competence as a basis for higher education: the focus is the student and the process of learning.

Europe requires its people to be culturally and intellectually equipped in ways appropriate both for their present and for their future. Only thus will they be able to lead meaningful and satisfying lives, personally and collectively. Institutions of higher education have a key role in developing appropriate strategies. It is the responsibility of higher education institutions to prepare their students, in a lifelong learning perspective, for a productive career and for citizenship. Universities and other higher education institutions increasingly have come to realize that theirs is a moving target, and that their leadership in the field of the elaboration and transmission of knowledge and understanding implies a new sensitivity towards developments in society. They increasingly look to consultation with their stakeholders on a regular basis. Education inspires progress in society, but at the same time it must respond, with foresight, to society, preparing adequate strategies for future programs of studies. (The Tuning Project: http://tuning.unideusto.org)

Tuning (cf. Gonzalez & Wagenaar, 2003) is a landmark in the pursuit of a European space of higher education. Its basilar concepts are learning outcomes (formulated by academics) and competences. These represent a combination of knowledge, understanding, skills and abilities that are developed during the process of learning by

the student. Tuning efforts were to identify the set of crucial (thematic/ specific) competencies (related to the profession) and the transversal, generic competencies that every graduate should have acquired. After extensive research (including consultation with employers, academics and graduates in several disciplines and professional fields), the Tuning Project identified several generic competencies and these were classified into three types (systemic, interpersonal and instrumental) (cf. Table 2).

Raising awareness about the great relevance of generic competencies, both for employment and success at work and for citizenship, is a great achievement of the Tuning process, with important consequences in curriculums Europe wide.

Table2. Tuning Generic Competences

Systemic competences: abilities and skills concerning whole systems (combination of understanding, sensibility and knowledge; prior acquisition of instrumental and interpersonal competences required)	Entrepreneurship	14. Capacity for generating new ideas (creativity) 27. Initiative and entrepreneurial spirit
	Organization skills	9- Research skills 25. Ability to work autonomously 26. Project design and management 29. Concern for quality
	Leadership	19. Leadership
	Competência para o sucesso	2. Capacity for applying knowledge in practice 10. Capacity to learn 13. Capacity to adapt to new situations 24. Understanding of cultures and customs of other countries 30. Will to succeed
Interpersonal competences: individual abilities like social skills (social interaction and co-operation)	Individual abilities	12. Critical and self-critical abilities 22. Appreciation of diversity and multiculturality 28. Ethical commitment
	Social skills	17. Teamwork 18. Interpersonal skills 20. Ability to work in an interdisciplinary team 21. Ability to communicate with non-experts (in the field) 23. Ability to work in an international context
Instrumental competences: cognitive abilities, methodological abilities, technological abilities and linguistic abilities	Cognitive skills	1. Capacity for analysis and synthesis 3. Planning and time management 4. Basic general knowledge in the field of study 5. Grounding in basic knowledge of the profession in practice
	Methodological skills	15. Problem solving 16. Decision-making
	Technological abilities	8. Elementary computing skills 11. Information management skills (ability to retrieve and analyse information from different sources)
	Language skills	6. Oral and written communication in your native language 7. Knowledge of a second language

Note. The number represent the ranking of this competencies, taking into consideration the enquiry to employers, academics and graduates

The results of the Tuning survey show that there's a high correlation between the importance attributed to each competence by employers and graduates. They value on the top of the ranking the systematic and instrumental competences: Capacity for

analysis and synthesis, Capacity to learn, Problem solving, Capacity for applying knowledge in practice, Capacity to adapt to new situations or Concern for quality. And on the bottom of the ranking the competences of a more intercultural and international scope, such as 'understanding of cultures and customs of other countries, 'appreciation of diversity and multiculturality', ability to work in an international context' and 'knowledge of a second language'.

We could speculate that this means a trend to envisage the world of labor and professions as the sole ground for economical success and a rather asocial or amoral ambiance. If this speculation is right, it could be the result of the neoliberal scenario of western societies, where individual needs, success and freedom is beyond or at least separated from the social welfare and needs of communities.

The prospectus of Howard Gardner, the five minds for the future, is somehow an alert against the danger of preparing professionals mainly concerned with success, their minds guided by the mechanicist, amoral, individualist motto "first you save yourself, then you save the world".

4. The five minds for the future

Howard Gardner is worldwide known and viewed as one of the most influential contemporary education scientist and philosopher. Gardner is worried about the same environmental transformations mentioned by Natrillo (2007) and speculates about a future transformed by a genetic revolution, mega cities, global economies, virtual realities and machines replacing human beings in tasks and decisions. His "five minds" is less a psychological or philosophical concept and more an educational policy (cf. Gardner, 2008) and an educational vision for the expected future. The five minds are nothing but a selection of competencies of crucial relevance for people's adaptation and sustainable societies. Gardner elects the following: disciplined mind, synthesis, creativity, respect and ethical behavior.
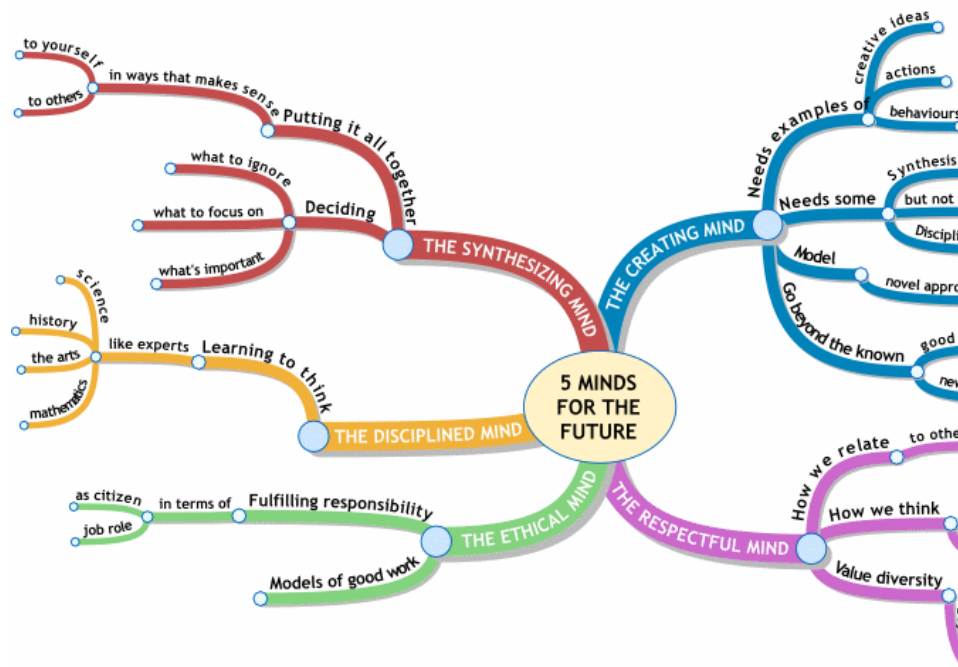
Figure 1. A mindmap of the Five Minds (Gardner):
http://isaiahlim.wordpress.com/2006/10/15/five-minds-for-the-future

The Disciplined Mind values knowledge and informed and rigorous thought. The approach is multi-perspective, scientific and rational and behavior is informed and guided by accurate information and strategic thinking.

When I use the term disciplinary thinking I am playing on three connotations of the English word discipline. Firstly, what our grand-parents knew -- you should work regularly and steadily on things and eventually you will get better. Indeed, any practice will build up disciplinary muscle.

The second—is the heart of what happens in middle and secondary school—is mastering the major ways of thinking. Before university, they are Science, History, Mathematics, and one or more art forms. I make a very sharp distinction between discipline (a powerful but typically non-intuitive way of thinking) and subject matter (facts, information).

The third connotation, which is so important if we want our children to be gainfully employed and have a full life is becoming an expert in at least one thing. Because if you are not an expert, you will not be able to work in the world of the future, or you will work for somebody else who is an expert. And that is so different from two hundred years ago during agricultural times and a hundred years ago during industrial times. Now, we are really in a knowledge era, and expertise is the only thing which will take forward real value. (Gardner, 2008, p. 5).

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The Synthesizing Mind controls chaos and disorder by extracting principles from cases and extracting meaning from intricate and intriguing situations. Understanding and explaning reality depend on such intellectual gift. This is the mind able to manage complexity (theorizes, conceptualizes, makes taxonomies, sets rules and principles, is conformable with metaphors, images, general scenarios, visual and wordless narratives).

A great example of a synthesizer is Charles Darwin. He travelled for five years aboard the Beagle, and collected a huge amount of information about the flora and fauna of the world. He did his own experiments and observations of the world, corresponded with everybody who was a naturalist, and then twenty years later put forth one of the great intellectual syntheses "On the Origin of the Species."

The Synthesizing Mind realizes that nowadays, we are all inundated with information. If you looked up the word "evolution" on your search engine, you could spend the rest of your life just reading secondary sources. Many of them are of questionable value and you need criteria for deciding what to pay attention to and what to ignore. Additionally, to synthesize for yourself, you have to put information together in ways which cohere, which make sense for you. And if you are involved in communication, as every teacher, parent, and professional is, the synthesis has to be transmittable to other people. (Gardner, 2008, pp. 8-9).

The Creating Mind plays with complexity and excels, by renovating the shape of events, thought and feelings. It destabilizes, dissents, intrigues; it is not concerned with superficial fame and celebrity, it really influences and changes whatever it touches. This mind can be inside the individual and inside the group (the wisdom of crowds) and examples can be seen in collective achieving and recommendations where the progression and improvement results from collective efforts (Wikipedia, Amazon or eBay list of recommendations, …).

I believe that you cannot be creative unless you have mastered at least one discipline, art or craft. And cognitive science teaches us that on the average, it takes about ten years to master a craft. So, Mozart was writing great music when he was fifteen and sixteen, but that is because he started when he was four or five. Same story, with the prodigious Picasso. Creativity is always called "thinking outside the box." But I order my quintet of minds in the way that I do because you can't think outside of the box unless you have a box.

As a psychologist, I thought that creativity was mostly an issue of how good your mental computers were. But my own studies and those of others have convinced me of two other things. First, personality and temperament are at least as important as cognitive powers. People who are judged creative take chances, take risks, are not afraid to fall down, and pick themselves up, they say "what can I learn from this?" and they go on. (Gardner, 2008, pp. 10-11).

The Respectful Mind is the excelling mind in what regards peace keeping and preserving social wellbeing and sustainable interrelations. This is both inspired by principles of

justice and caring. This is an empathic mind, it goes beyond personal views because it is skilled enough to view multiple perspectives: it puts on the other's shoes.

The respectful mind is no more or no less than what gave rise to the League of Nations and the United Nations. It is recognizing that the world is composed of people who look different, think differently, have different belief and value systems, and that we can no longer be hermits and live in complete isolation. Therefore, our initial choices are to make war, (which is what we did in a tribal society), or to hold our nose and tolerate others. But we can be more ambitious. (Gardner, 2008, pp. 12-13).

The Ethical Mind envisages a co-responsible, active and committed citizenship. The interest of community is above the interest of a few privileged. State of right becomes a pillar of political action, but the responsibility is not addressed only to political powers and structural, institutional organizations and structures, is a matter of concern for every individual. Ethical concerns are beyond the obvious and aspects such as preserving nature and ecological, cultural and genetic heritage are seen as essential. Bio diversity and cultural diversity can be understood not only as beautiful ideas but as a need of all the peoples and a duty to be respected, preserved and valued. For the professionals, ethics is a basic concern in work decisions – these are the ones who excel and who do good work (the work that is simultaneously efficacious and responsible) (cf. http://www.goodworkproject.org; Gardner, Csikszentmihalyi & Damon, 2001).

The ethical mind is guided by the 3M (Gardner, Damon & Csikszentmihalyi, 2001; Gardner, 2002): mission (a sense of purpose and dedication to a valuable cause), models (an inspiration taken from the example of life of excelling models in the given area of activity), and mirror (the mirror test: to ask oneself "did I do what I should today? Am I proud for what I've done? Was it good work? Did it benefit the others?").

The work that I have done has been in collaboration with many scholars, particularly William Damon and Mihaly Csikszentmihalyi. It is called "The Good Work" project. We define good work as a work that embodies three Es: excellence in a technical way; engagement—that people are meaningfully involved with what they are doing and they find it motivating. They look forward to Monday and are even willing to come to the meetings on Saturday! and ethical, behaving responsibly in your world as a worker. I think of these three Es as a triple helix. And interestingly these three Es don't necessarily coexist. You could be excellent but not ethical. You could be ethical but not engaged.
The challenge of good work is to intertwine those three Es. (Gardner, 2008, p. 14).

Gardner conceptions are aligned with the perspective of positive psychology (Seligman, 1998; Seligman, 2002; Seligman & Csikszentmihalyi, 2000; Sheldon, Frederickson, Rathunde & Csikszentmihalyi, 2000), which is concerned with the potential for development and improvement possessed by human beings, the virtues, strengths and positive aspects of human condition (cf. Table 3). Personal strengths and virtues include the following: increasing love/social, hoping/optimism, better relationships, talent, wisdom, altruism, tolerance, spirituality, values, cognitive restructuring, meditation, relaxation, flow, intuition, creativity, fulfillment and success. This is undoubtedly a revolutionary perspective, at least in western psychology (of personality), which has for decades been concerned mainly with fragility, aberration and abnormality.

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For a long time, psychology was trapped in a rationalist paradigm and spiritual, mentalist or subjective terms such as wisdom, altruism, meditation, relaxation, and intuition didn't have enough dignity to be taken as objects of scientific study or to be seen in a taxonomy of human virtues. So Positive Psychology shifted a paradigm in Psychology. This is an effect of a progressive attraction of western modes of thought (in science, spirituality, art and lifestyles) to eastern concepts and a more spiritual and integral view of human creatures.

Gardner's five minds prospectus entails a holistic perspective such as this. The educational philosopher (after the Psychology scientist) synthesizes and balances the multidimensionality of human character: simultaneously rational and spiritual, cognitive and emotive, strong and feeble. He brings together knowledge and ethics, the box of disciplines and the creative gaze outside the box, autonomy and responsibility. He also considers as equally relevant the four categories of values: ethics (e.g. right versus wrong), aesthetics (e.g. beautiful versus ugly), doctrinal (e.g. political orientation, ideology, religious and social beliefs) and innate values/inborn (e.g., values regarding reproduction or survival). This integration is especially important in times of globalization. Somehow, it entails what Turner (2001) calls the cosmopolitan virtue:

one can suggest that the components of cosmopolitan virtue are as follows: irony, both as a cultural method and as a contemporary mentality in order to achieve some emotional distance from our own local culture; reflexivity with respect to other cultural values; skepticism towards the grand narratives of modern ideologies; care for other cultures, especially aboriginal cultures, arising from an awareness of their precarious condition and hence acceptance of cultural hybridization; and an ecumenical commitment to dialogue with other cultures, especially religious cultures. Cosmopolitan irony is generally incompatible with nostalgia, because it recognizes that our modern dilemmas cannot be solved simply by a naive return to origins. Cosmopolitanism is specifically a product of globalization and modernity, but it also shares much in common with Stoical cosmopolitanism that, among other things, attempted to come to terms with the cultural diversity of classical times (Hill, 2000) (Turner, 2001, p. 150).

Table3. The VIA Classification of Character Strengths[i] (Via Institute on Character, 2008)

The six virtues	The 24 Strengths
Wisdom and Knowledge – Cognitive strengths that entail the acquisition and use of knowledge	1. **Creativity** [originality, ingenuity]: Thinking of novel and productive ways to conceptualize and do things; includes artistic achievement but is not limited to it 2. **Curiosity** [interest, novelty-seeking, openness to experience]: Taking an interest in ongoing experience for its own sake; finding subjects and topics fascinating; exploring and discovering 3. **Judgment & Open-Mindedness** [critical thinking]: Thinking things through and examining them from all sides; not jumping to conclusions; being able to change one's mind in light of evidence; weighing all evidence fairly 4. **Love of Learning:** Mastering new skills, topics, and bodies of knowledge, whether on one's own or formally; obviously related to the strength of curiosity but goes beyond it to describe the tendency to add systematically to what one knows 5. **Perspective** [wisdom]: Being able to provide wise counsel to others; having ways of looking at the world that make sense to oneself and to other people

Courage – Emotional strengths that involve the exercise of will to accomplish goals in the face of opposition, external or internal	6. **Bravery** [valor]: Not shrinking from threat, challenge, difficulty, or pain; speaking up for what is right even if there is opposition; acting on convictions even if unpopular; includes physical bravery but is not limited to it 7. **Perseverance** [persistence, industriousness]: Finishing what one starts; persisting in a course of action in spite of obstacles; "getting it out the door"; taking pleasure in completing tasks 8. **Honesty** [authenticity, integrity]: Speaking the truth but more broadly presenting oneself in a genuine way and acting in a sincere way; being without pretense; taking responsibility for one's feelings and actions 9. **Zest** [vitality, enthusiasm, vigor, energy]: Approaching life with excitement and energy; not doing things halfway or halfheartedly; living life as an adventure; feeling alive and activated
Humanity - Interpersonal strengths that involve tending and befriending others	10. **Capacity to Love and Be Loved:** Valuing close relations with others, in particular those in which sharing and caring are reciprocated; being close to people 11. **Kindness** [generosity, nurturance, care, compassion, altruistic love, "niceness"]: Doing favors and good deeds for others; helping them; taking care of them 12. **Social Intelligence** [emotional intelligence, personal intelligence]: Being aware of the motives and feelings of other people and oneself; knowing what to do to fit into different social situations; knowing what makes other people tick
Justice - Civic strengths that underlie healthy community life	13. **Teamwork** [citizenship, social responsibility, loyalty]: Working well as a member of a group or team; being loyal to the group; doing one's share 14. **Fairness:** Treating all people the same according to notions of fairness and justice; not letting personal feelings bias decisions about others; giving everyone a fair chance. 15. **Leadership:** Encouraging a group of which one is a member to get things done and at the time maintain time good relations within the group; organizing group activities and seeing that they happen.
Temperance – Strengths that protect against excess	16. **Forgiveness & Mercy:** Forgiving those who have done wrong; accepting the shortcomings of others; giving people a second chance; not being vengeful 17. **Modesty & Humility:** Letting one's accomplishments speak for themselves; not regarding oneself as more special than one is 18. **Prudence:** Being careful about one's choices; not taking undue risks; not saying or doing things that might later be regretted 19. **Self-Regulation** [self-control]: Regulating what one feels and does; being disciplined; controlling one's appetites and emotions
Transcendence - Strengths that forge connections to the larger universe and provide meaning	20. **Appreciation of Beauty and Excellence** [awe, wonder, elevation]: Noticing and appreciating beauty, excellence, and/or skilled performance in various domains of life, from nature to art to mathematics to science to everyday experience 21. **Gratitude:** Being aware of and thankful for the good things that happen; taking time to express thanks 22. **Hope** [optimism, future-mindedness, future orientation]: Expecting the best in the future and working to achieve it; believing that a good future is something that can be brought about 23. **Humor** [playfulness]: Liking to laugh and tease; bringing smiles to other people; seeing the light side; making (not necessarily telling) jokes 24. **Religiousness & Spirituality** [faith, purpose]: Having coherent beliefs about the higher purpose and meaning of the universe; knowing where one fits within the larger scheme; having beliefs about the meaning of life that shape conduct and provide

comfort

In fact, people need all these talents and skills for the sake of adaptation, survival and wellbeing. Society also needs people who are lifelong learners and who aspire to play a positive role in the world, even if this is not to be played in the arena of great historical events and famous events. Eastern philosophies have long foreseen the interconnections of all the elements in the universe. Each one of our actions somehow transforms and shapes our environment (natural and social). Being conscientious of this, being able to respect the spirit of the place, to protect motherland, to find the solution to daily lives problems and to prevent suffering, damage or insecurity is already a great achievement in an instable and complex world. This can make a difference; the world doesn't need a horde of heroes and titans. Educated, active, skilled and ethical citizens are enough to keep society sustainable and Earth a good place to live.

With reason, Gardner considers the Synthesizing Mind and the Ethical Mind the "less familiar", and also "more enigmatic and thus more energizing to explore". In our opinion, these two minds have a lot to do with the perfect marriage of reason and heart. Stupidity and wickedness results in barbarian destruction; stupidity and goodness is a feeble combination and easily manipulated; intelligence and wickedness is dangerous and destructive; intelligence and goodness is the only alliance that, under favorable circumstances, may turn a common person into a hero. This means behavior guided by the sense of justice and caring, moral principles and compassion, a thoughtful and critical mind allied with a strongly empathic and unselfish heart.

The 3 M model, the five minds, the six virtues, the eight key competences for lifelong learning, the twenty four human strengths, the thirty generic competences for professional work -- whatever the chosen model or the magic number there's a very simple and global true of modern times: citizenship for complex and multicultural societies requires complex minds and intercultural competences. For a long time education of character and the models of virtues have been put apart with a label of indoctrination (thus, non-scientific, non-democratic, and authoritarian).

However, education and educators have always been asked by society to take on their hands the role of teaching the young generation how to cope with their present times and how to prepare themselves for the future. Old generations try to keep the patrimony of knowledge the wisdom of old generations alive. Education (in schools, at home, in any of the community institutions) is the guardian of this heritage and also the headlight that illuminates the path to a hopefully valuable future. Although many abuses happen (and are a reality in authoritarian regimes, contexts and minds), education for citizenship will prevail.

5. Students' voices, minds and hearts

Learning is essentially a reflective activity that enables us to draw upon past experience to understand and evaluate the present, so as to formulate deeper understanding and to shape our future far more effectively. The 5 minds of the future are also useful tools for a better understanding of the policy in the classroom. Gardner declared in an interview with A.T. Lockwood that ' diversity is clearly with us, but it is actually fairly

difficult to determine whether we have substantially more diversity now or whether the diversity is more noticeable and more attention is paid to it. In the last analysis, the basis idea of multiple intelligences boils down to the fact that kids are different from one another, they have different kinds of minds (…) then perhaps schools should do something else (…) We would have to look at a particular kind of school to see which minds are being well –served and which minds be served much better (….)

Our strategy to explore these minds was based on the vision of constructivism in which we progress from curiosity and inquisitiveness to new information and knowledge. The condition sine qua non of constructivism is that learning never starts from a position of total ignorance, since we build new ideas on top of earlier ideas which may well be changed in the process. It is through building questions that we construct knowledge (Abbott, 2010)

We presented a mind map based on the book of Gardner to 16 undergraduate students in their second year of our Flemish teacher training college. The multiple intelligences of Howard Gardner and the 7 routes of the TO-GATHER project created by Wim Kratsborn were given as an introduction to this mind map. During a two hours sessions we collected the students' questions and remarks in relation to the mind map. The only restriction was that the students had to link the branches of the map with their own educational experiences as trainees in the classroom. So this survey is very fragmental but will be a first step in a long –term process. In the discussion there were even references to the pathological or excessive form of the minds. In this contribution we haven't explored these thoughts. If we go further in this project the next step will be that we train students in their final year to work more consciously on this approach after reading the book of Gardner. The results will be presented on the website of To – Gather. We followed the advice of Gardner that after starting with the disciplined mind it is better to move to the synthesis mind and go on with the creative one. We based our session on the English version of the book. We followed the same structure: first some questions based on the branches and sub branches, then some remarks and last but not least some references (made by themselves or their mentors) to their practice.

The disciplined mind

What is the meaning of discipline? Is it the same as a subject? Or has discipline to do with drill and work faithfully or dutifully? Is regime a synonym for discipline? Has it to do with mastery? Are the pronounced subjects the basic ones? What about the technical or vocational subject matters like technology or wood crafting?

A disciplined mind asks for experts. What is the profile of an expert? Is it possible that not only the teachers but also the pupils or external bodies can become experts? How can we label someone as an expert? Does it mean that you must not only have excellent knowledge but also the best skills to become an expert? Is 'learning to think' a skill in this mind? Does the discipline art contain languages, philosophy and social sciences? Are the selected disciplines gateways to other technical disciplines?

Referring to their evaluation of their practice students said that their mentors told them that they have a backpack with enough knowledge to work out a project. Another one

said that the teachers said that it is important to compare several textbooks to find creative ideas or activities. One said that being a leader in a youth movement with children with special needs gave him more security and confidence when he was working with SEN pupils. One said that the commitments he made with the group about working in the ICT room were appreciated by the teachers. One said that he has still difficulties with working out a good lesson scheme for a smart board or an old fashion blackboard.

The group of students immediately agreed that this mind doesn't focus only on the content of facts and figures but must look for structures and processes. 'Knowing some taxonomies will be important for filling in this mind', one of the students said.

> *I had the task to work out extra worksheets for talented pupils based on some textbooks. It was for me a hard work to understand the exercises.*
> *My background is a technical one and I have problems to work in the third stage (K 6) lesson plans of mathematic and language. The text books don't give the information that I need.*

Creating mind

Is creating the same as inventing or innovating? Where do we find examples of creative ideas and action? Through observation, reading, discussion? Is co-operative working not the best way to develop creative ideas and actions? Is it a condition that this kind of mind must be supported by solidarity and dialogues**?** Are teachers able to express their actions and behaviors? What is the difference between actions and behaviors? When can we speak about creative ideas? How can we develop this mind when we teach math and language? Do we need a critical mind at the same time?

Is there only one model to express the creative mind? What are 'novel' approaches? What are good questions in relation to go beyond the knowledge? Are there open questions, Critical questions? Do they clarify something? What about the answers? What is the meaning of new in relation to questions? Does it mean 'innovative'?

One linked the creative mind with the introduction of the smart board. She said this kind of hi – tech teaching that the teachable moments are 'constant and instant'. You can save the information and come back to it at every moment and you have instant information when a question comes. The questions about extra information can be found instantly. We need more observation and questionnaires to talk about creative ideas. These ideas must come up in relation to subjects that children express as boring.

Some students noticed that this mind must have links with like Picture, logic, nature and music smarts. One student remarks that differentiation is important in cultivating this mind:
> *we reach more pupils, because some learn better through stories, others through a philosophical talk about a piece of art, or through identification with a skilled practitioner.*
> *We notice that the head teacher told us about the dress code in the school and the way we can contact the teachers. Some teachers gave us the responsibility*

to work out a project with people of an environmental organization. We learned how to negotiate with them.

After my placement in Africa my creative mind was more shaped. I learned how to teach 'more with less' and coming back I learned my pupils to have more respect for the material in the classroom.

With recycling material I worked out several activities for this class. The children could make their own choice. First they expressed their feelings and ideas. They found brilliant solutions and the creative results for mother day were amazing.

There are so many books and websites to find ideas for doing some activities in relation to Mother Day. It is for the school a very important moment and the whole school worked at it. The teacher said that I failed in realization an ' attractive' and 'innovated' present.

Synthesizing mind

As moderator we pronounced that multiple ways of thinking about a topic are also essential for the synthesizing and the creative minds. Stepping to the second minds one student came up with the question : does synthesizing mean to look for connections after doing first a kind of analysis or diagnosis? All agreed that a set of tools must be available for making a synthesis . Can we use digital technology like 'mind mapping' to work out the synthesis? What about the contribution of search engines like 'wonder wheel' in working out synthesis? What are the criteria of deciding? Why do we ignore contents, emotions, skills, attitude? How to decide what is important, the focus? How can we evaluate this mind? How can we express our decisions? Must we tell our pupils, audience explicitly about our focus, our preference? Do feelings play an important role in this mind? Does synthesis also mean selections? How will tell us that the mind is 'correct ' or 'right'?

Talking about the qualities of a good synthesis they used the adverbs: transparent, original, essential, substantial, logic and useful. The first remark about the respectful mind was that relation to others is too 'narrow' and that we must put in the pictures: ourselves (self –esteem) and material and nature.

When can we do this 'putting it all together'. Does it mean that you can do it by your one? Does it mean that we must co-operate with others to realize this mind? Are the criteria that it must make sense for yourself and/or the others? How do you express this synthesizing mind? Can you evaluate this mind?

I can 'survive' as a teacher in the future if I find at least one colleague who want to collaborate with me and looking what is the 'essence' of our teaching and how can give pupils ' a file rouge' about a subject .

Respectful mind

We were looking if we could find some synonyms for respectful mind. Some mentioned: open mind, critical mind or intercultural mind. Also here some students made a reference to the smarts of Gardner like ' interpersonal smart and nature smart'.

Is there not a need for value unity instead of value diversity? How can we promote value diversity? Is respect the same as tolerance? Can you measure tolerance if you said ' more or less tolerance'? Does tolerance also mean acceptance? Are their norms and rules in this mind? Has respect to do with awareness and well –being? When do we forget this mind? How can we promote it? Who are the others and the differences?

One student referred to the vision of Belgian researcher Anouk Depuydt (2001) who mentioned 5 respectful relations (to our body, the others, the material world, the community, the cosmos). For the students the differences that they linked with the respected mind were gender, sexuality, races, beliefs, customs, rituals and ideologies.

> *It is good that you use the golden feather for the one who worked very intensively. You may refer to the 4 bears of Meichelbaum to stress the four steps they must follow in realizing their tasks.*
> *It was a good idea to use the round table so that you see all the pupils and see what they have done good or wrong.*
> *I have difficulties to spread my attention to the different groups.*
> *Children have difficulties to express their feelings. Funny and unknown exercises with photos and music were good ice –breakers . Good that you evaluate these exercise with the pupils.*

The ethical mind

"Is there no overlapping with respectful mind', asked a student? Does the ethical mind express itself only in responsibility ? What kind of ethics do we promote? Is it the ethics of Aristotle, Kant or Lévinas? How can we promote responsibility? If you have no professions and you are not recognized as full citizen do you have an ethical mind? Does it mean that ethical mind in a profession has to do with a code and a deontology? Is this not a hidden mind or a mind under the surface? What is good work? Is it the same as volunteer work? Introducing the minds in our policy is promoting at the same time an inclusive approach. Learning is no longer purposeless or meaningless but linked and meaningful.

> *We must ask our mentor to tell us more about the way he gave a sanction to some bad behavior. I made adapted commitments for the lessons of music, philosophy and drama so that I can 'survive'. I asked even some pupils to repeat these agreements. I told them about the punishment too. They were very silent. There was a good atmosphere during these sessions.*
> *One of the most disturbing things that we can lose in life is perspective. To lose perspective is to experience everything as negative and not to know how we get out of it. I believe that 'using the five minds' we will regain our perspective. Once regained, we might look back and see what we had lost.*

Conclusions from students voices and recommendations

We see the five minds for the future as a kind of antidote to endless overdoses of behaviorism. This approach asserts that learning has always to be under control of the teacher, as has the learning environment. The human mind is better equipped to gather

information about the world by operating within it than by reading about it, hearing lecturer on it, or studying abstract models of it. We need to find ways to enable students and pupils to see their lives in a wider context that gives life a broader meaning. The promotion of these minds give people a quick sense of self- importance that produces a high feel –good factor and are therefore the ideal expression of modern understandings of happiness. In the future we need a less ritualistic, more deeply internalized form of discipline. Such a disciplined individual continues to learn, but not because she or he has been programmed to spend two hours a night hitting the books. She or he has become passionate about the process of learning about the world. The platonic expression is still useful in this context: through education we need to help students find pleasure in what they have to learn. One of the most disturbing things that we can lose in life is perspective. To lose perspective is to experience everything as negative and not to know how we get out of it. I believe that 'using the five minds' we will regain our perspective. Once regained, we might look back and see what we had lost (Jamison, 2009)

After these art of questioning we look to what are the most important challenges for our trainees. The disciplined mind was the one that could manage. Responsibility was for them more a value that would be important in their daily life and work. They want to learn more about models of good work. Also the respectful mind was rather a challenge. They had to think more consciousness about this mind.

The two must underestimated minds for the surveyed students were the synthesizing mind and the creating mind. For both minds they asked for more training sessions and good examples. For both minds they said that cooperative learning would be a good way to practice these minds. The creative mind means that they received some 'problems or case studies' to reflect on it. They want to see that creative means talents, changes, giving life an extra dimensions. They want to empower their creative minds. It is a personal and common challenge to find another way by using these minds of reframing the problems.

The MI theory and the five minds encourages schools to pluralize the forms of assessment and evaluation. If teachers believe in just one kind of intelligence and head teachers in one kind of mind, what would follow from that? Would it mean that teachers would have to treat everyone the same? What would be gained and would be lost in doing that? Once schools have recognized different kind of intelligence and minds, teachers are selectively driven to try to personalize education as much as possible.

Final thoughts

We hope that teachers, advisers, educational policy makers, teacher trainers and educational researchers will study the five minds for the future and develop elegant modes of teaching that empower children and young adults as learners. The competences of LLL in combination with the vision of Gardner represent a powerful initial repertoire for teachers and even trainees in most situations. The voices of the trainees learned that a systematic model of learning is at the same time a tool for teaching. Last but not least we argued strongly that excellence in learning (and teaching) transcends the dichotomy between whole class – teaching and individual instruction. It is important to remind that Gardner's approach and the other taxonomies shortly in this paper, are not only mirrors

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to reflect on our personal learning and teaching but also windows to inquire and reshape our environments.

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To - GATHER project: http://to-gather.org
The Tuning Project: http://tuning.unideusto.org
Via Institute on Character: http://www.viacharacter.org

Key Competencies for Lifelong learning (EU)	Tuning (EU)	Five Minds for the future (Howard Gardner)
Communication in the mother tongue	6. Oral and written communication in your native language	
Communication in foreign languages	7. Knowledge of a second language	
Mathematical competence and basic competences in science and technology	4. Basic general knowledge in the field of study 5. Grounding in basic knowledge of the profession in practice 2. Capacity for applying knowledge in practice 29. Concern for quality	
Digital competence	8. Elementary computing skills	
Learning to learn	1. Capacity for analysis and synthesis 3. Planning and time management 9. Research skills 10. Capacity to learn 11. Information management skills (ability to retrieve and analyse information from different sources) 12. Critical and self-critical abilities 13. Capacity to adapt to new situations	
Sense of initiative and entrepreneurship	14. Capacity for generating new ideas (creativity) 15. Problem solving 16. Decision-making 19. Leadership 25. Ability to work autonomously 26. Project design and management 27. Initiative and entrepreneurial spirit 30. Will to succeed	
Cultural awareness and expression	22. Appreciation of diversity and multiculturality 23. Ability to work in an international context 24. Understanding of cultures and customs of other countries	
Social and civic competences	17. Teamwork 18. Interpersonal skills 28. Ethical commitment 20. Ability to work in an interdisciplinary team	

The "Five Minds for the future (Howard Gardner)" column contains the following vertically-labelled minds, each spanning portions of the rows: Disciplined Mind, Synthesizing Mind, Creative Mind, Respectful Mind, Ethical Mind.

21. Ability to communicate with non-experts (in the field)					
Wisdom and Knowledge – Courage – Humanity – Justice – Temperance – Transcendence - Wisdom and Knowledge – Courage – Humanity – Justice – Temperance – Transcendence					

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[i] VIA is an acronym to 'Values in Action'. VIA Institute on Character was founded by Martin Seligman and Neal Mayerson to advance the science and practice of character development. The VIA Institute supported the creation of the VIA Classification of Character Strengths. The VIA Classification and Survey are used by researchers, clinicians, consultants, coaches and educators in the field of positive psychology and strengths (cf. http://www.viacharacter.org). This *VIA Classification of Character Strengths is an updated classification (2008) that results from research using* The VIA Survey of Character (or VIA Inventory of Strengths, VIA-IS), a scientifically validated tool for measuring character strengths. The classification was first described by Chris Peterson and Martin Seligman in their well-known book '*Character Strengths and Virtues, the Handbook and Classification*'.