

# **Innovation, formal and informal education: can universities nurture the creativity of students?**

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## **1. Introduction**

It is anything but easy to find answers to the question of how universities can nurture the creativity of students. A complex reply does not only include various actors, scales, theories, motivations, interests as well as social, economic and political factors, but it is bound to challenge the university as a whole. The university as an institution of formal education is in crisis. Various institutional reforms, particularly the Bologna reforms and the so-called „initiatives of excellence“, have been coined and created in recent years, but they also demonstrate that universities have not yet been relieved from their lack of spirit. So the question of how universities can nurture creativity is above all concerned with the matter of how university as institution can itself be transformed and modified.

Creativity (and also innovation) has not only in this context become a significant and modern buzzword. The term „creativity“, however, has lost much of its clarity and brightness due to its arbitrary application to any possible context. Creativity, in fact, appears to be a supernatural, affirmative and favourable signifier that nonetheless remains somewhat ambiguous and debatable. This article intends to breathe new life into the debate and primarily define how creativity and university interact. The definition of what creativity accounts for will be discussed at length in chapter two.

There have been many contradictions between the liberal politics of deregulation and international efforts to reorganise and restructure educational frameworks. Particularly the Bologna process has been a highly controversial subject in this conflict. In the light of a blatant tilt of the educational system a critical discourse that revolves around the economisation of education has come into being. The Hungarian intellectual Polanyi provides a fruitful understanding of economisation. We can talk about it when economy is not embedded into social relations anymore, but these social relations in economy (Polanyi, 1978: p.88). The Austrian academic Faschingeder puts forward that in the context of education economisation

means the elimination of the political option (Faschingeder, 2005: p.13). In this sense, many regard education to be threatened with extinction because the expanding capitalist paradigm enters its interior logic. Education itself has historically always been a terrain of contention and social struggles. What is defined as education at a time needs to be seen in reference to the hegemonic social relations. The ideal of education that has been expressed by thinkers of Idealism, such as Hölderlin or Humboldt, puts a self-critical, responsible and politically mature subject to its core. The French philosopher Foucault furthermore regards the aesthetics of existence as permanent processes of self-creation through self-reflection and a sophisticated art of being active (Faschingeder, 2005: p.17ff). The critical educational discourse accuses economy to lose sight of this human aspect in education. Students' maturity has been pushed aside in favour of their employability. Economic principles of usability, efficiency and profitability are criticised for their dominance in universities' curricula as well as their implication on social and ethical pretensions that are argued to have fallen victim to alleged market criteria. The educational system has been altered in order to respond to converted labour market requirements. In a pursuit of academic excellence universities form professionals, experts and technicians, but not necessarily creative, critical and self-aware human beings. Nevertheless, we do not insinuate that education in general is reduced to the standards of market economy. All historical communities did have to organise education in accordance with the capability to secure their survival. Thus, economic education and formation for relevant social fields of work are and will indisputably be necessary (Faschingeder, 2005: p.19f).

The urge to protect universities against this economisation is growing steadily. Many students, professors and activists share the conviction that universities should not only prepare for future jobs or communicate knowledge, but also capacitate and empower creative and self-contained thinking. In consequence, there is a strong demand for universities to be creative, inventive, resourceful and visionary places. In this context, the market-driven paradigm persistently interferes with attempts to convert universities. Also in terms of creativity, there is the desire to measure, to assign credits to anything done in universities and to create indices and rankings that truthfully provide information on how creative a person or an educational system, such as university, is. Creativity is the talk of the town and it does not seem to bother that there are certain paradoxes and inconsistencies in this discussion.

Creativity has also become a key term in the so-called „creative economies“ that are regarded as fundamental for economic progress. The report “Creativity in Higher Education” of the

European University Association states that “Progress towards a knowledge-based society and economy will require that European universities, as centres of knowledge creation, and their partners in society and government give creativity their full attention” (Report on the EUA Creativity Project, p.6). These call upon the exigency that not only expertise and specialised knowledge are important, but rather the capability to work independently and to score with creative ideas. In other words, mainstream knowledge is boring. The great challenge and the commonly contentious issue here is exactly the question of how universities can nurture creative processes, which are most difficult to incorporate into a synchronised and crammed schedule. Mankind does not lack standardised or occidental, science-based knowledge, but wits and creative ideas. Students do not develop those by successfully completing a normalised canon of formation in the fastest pace possible and to an even lesser extent will they develop in this manner a personal profile that does not represent a passepartout, but rather a person in contour (Werle 2010). The current educational system conflicts with social innovation and the actual requirements of creative economies.

What makes universities a creative milieu? What factors are important? What kinds of values are at work here? What other actors, e.g. companies, participate in the call for creativity? We do not aim to answer these questions once and for all, but rather to access them critically and give practical recommendations on what can be implemented to nurture the creativity of students. This debate needs to be creative itself. While it is certain and beyond doubt that universities and education need a lot more money, they also need creative ideas. Therefore creativity will never be an output of whatever form (standing at the end of a university career), unless creative thinking does not flow back to the institution itself to unsettle, change and modify it. We have to think of universities as platforms, where creative ideas circulate continuously and are dealt with in an experimental manner. Universities do have the unique possibility to encourage dialogues and exchange between many different people, who come to teach and study at this institution. This would fundamentally enable creativity to blossom. It is rather simple: a university needs to be a copy of the multi-faceted swarm of people working and studying in it. Even profit-oriented enterprises have discovered the value of managing diversity, because it simply leads to better and more effective results. Universities do not have to manage this knowledge, but allow themselves to assign everyone their substantial personal potential and open up rooms for the development of these potentials (Kaul, 2010).

Creativity is interlinked and intertwined with many different actors, levels and spheres of life. In terms of education, the boundaries between formal, non-formal and informal education have to be deconstructed, because creativity fundamentally needs all spheres. In a problem-oriented undertaking we have to dare to ask ourselves where all those people we commonly acknowledge to be creative, such as artists, musicians, actors, poets or journalists, get their creativity from. Is it at all the university? Is it within the formal structures of education? It is not necessary to come to a conclusive point yet, but a somewhat common denominator is already articulative: in order to nurture creativity universities have to contribute to experimental, innovative forms of learning and knowledge creation. From enrolment to graduation, students need to be trained to assess the importance of academic problems and relevant theories and methods.

It is a crucial question to ask how universities should be designed in the future. This is an issue not to be left to politicians, commissioners or rectors, but it is first and foremost a query that students and society in general have to deal with. The various student protests throughout Europe have demonstrated that there is a will to do so. If we want to change universities, we need to reinvent them.

The subsequent chapter will provide detailed information on our key terms, such as creativity, formal, non-formal and informal education. Section three will deal with the hindrances of creative processes or the striking question: „what kills creativity?“. The discussion of ways to foster creativity is deployed in chapter four. The conclusive part specifies a number of recommendations and lists what can be implemented in practice.

## **2. Definitions**

### **a) Formal education**

The definition of formal education is widely accepted as the process of training and developing people in knowledge, skills, mind and character in a highly institutionalised, chronologically graded and hierarchically structured ‘education system’, spanning lower primary school and the upper reaches of the university (Coombs, 1974).

What students from all over Europe asked themselves during the UNICA Conference was: 'what can universities do to nurture our creativity?' This question included both the formal and the informal education. So how can these different forms of education work together to reach the same aim? In the first place formal education provides students with the knowledge and the so-called "hard skills" that enable them to set the foundation for their future careers and prospects. Furthermore, it has a great impact on actions and the conduct of world's populations. Melvin Tumin, Paul Barton and Bernie Burrus give us a few examples of the impact of formal education on behaviour in various contexts:

*"Nationalism tends to shift to internationalism in a political point of view (...), common sense to science, as acceptable evidence (...) and anaesthesia to creativity, in patterns of recreation. A common feature of these changes is that they imply the development of an awareness by the individual that there are other places than his own locality, other times than the immediate present, person other than himself and his immediate primary group (...)"* (Tumin, 1958).

Surely there are different points of view about the topic, and even though in this section we are focusing on formal education, there is a need to give space also to those who think the issue with a different cut. For example, Robinson says:

*"historically education has been preoccupied with a narrow and increasingly outmoded view of intelligence. Academic work is obviously very important. But it's not the whole of education, and academic ability is not the whole of intelligence. Academic work is really about certain types of deductive reasoning, and especially some forms of verbal and mathematical reasoning. Developing these abilities is an essential part of education. But if intelligence were limited to academic ability, most of human culture would never have happened. There'd be no practical technology, business, music, art, literature, architecture, love, friendships or anything else. These are big areas to leave out of our common-sense view of intelligence and educational achievement."* (Robinson, 2005).

Of course, formal education helps to achieve these changes on human behaviour, but it is not the only factor that interacts with peoples' mentalities. As we stated before, formal education has to be melted with informal and non-formal education to produce changes. That is precisely why during UNICA Conference, students' proposals tried to combine these two fundamental factors within universities' programmes.

## b) Informal education

Informal education is internationally considered as the lifelong process whereby every person acquires and accumulates attitudes, values, knowledge and skills from exposure to the environment they live in and their daily experience. Coombs and Ahmed (1974) define informal education as “all that learning that goes on outside of any planned learning situation, and because of this is usually unorganized and unsystematic”. To be more specific, informal education can include non-course-based learning activities, such as discussions, talks, presentations, or advice made available in order to respond to expressed interests and needs by people from different sectors, but even reading newspapers or books, sharing opinions with friends, family or colleagues, or watching television and listening to the radio.

Margaret Dale and John Bell define informal learning as a “learning which takes place in the work context, relates to an individual’s performance of their job and/or their employability, and which is not formally organized into a programme or curriculum by the employer”. (Smith, 2008)

The concept of informal education is often related to the one of non-formal education, generally located between the formal and informal education, and including all those organised educational activities outside the established formal system - whether operating separately or as an important feature of some broader activity - that is intended to serve identifiable learning clienteles and learning objectives. As we see here, the difference between informal and non-formal education is minimum and most of the time it is hard to distinguish one from the other. Alan Rogers, professor at the School of Education and Professional Studies of the University of East Anglia, states that “Every country interpreted non-formal education in their own way. For some, it meant every educational programme provided by the Ministry of Education apart from the schools and colleges (e.g. adult literacy classes). For others, it meant educational programmes like schooling provided by non-governmental agencies (NGOs)”. (Rogers, 2004)

### c) Creativity

“Creativity is the ability to generate innovative ideas and translate them from thought into reality. The process involves original thinking and the implementation of the creative idea”, “the capacity to produce something which is both unique and useful” (ITS, 2009): these are two definitions of creativity we can read in the dictionaries, and it was our starting point during the forum’s discussion, but as soon as the debate began, the students set apart these descriptions of the term ‘creativity’ to find their own definition. The study of the term was based on accounts stated by different authors: Ken Robinson defined creativity as “the process of generating original ideas that have value”, that can be considered as those kind of ideas which have an

effective impact on reality. Moreover, Robinson explains that creativity is a process and not an event, therefore it is something that people can learn through education, and “it should be seen as a core element of educational strategies in schools” (Roland, 2008). According to Norman Jackson, professor of higher education and director of the Surrey Centre for Excellence in Professional Training and Education (SCEPTRE) at the University of Surrey, creativity is a moral purpose to make a difference to students but also for the world, and to be creative is to imagine, explore, synthesise, connect, discover, invent and adapt. The concept that recurs in most definitions is the concept of “something new”, but this is not a sufficient condition to define a creative idea, therefore some authors specify that the idea has to be unique and useful.

Arne Dietrich, professor of Psychology at the American University of Beirut, provides us with a scientific perspective on our topic, assuming that

*‘creativity requires cognitive abilities, such as working memory, sustained attention, cognitive flexibility, and judgment of propriety that are ascribed to the prefrontal cortex. (...) Circuits in the prefrontal cortex perform the computation that transforms the novelty into creative behaviour. To that end, prefrontal circuits are involved in making novelty fully conscious, evaluating its appropriateness, and ultimately implementing its creative expression’* (Dietrich, 2004).

Moreover, Dietrich analyses the concept of creativity from a another point of view: during his article, he differentiates ‘creative insights, which are conscious realizations that occur in working memory, and creative expression, which is the implementation of that insight’ and examines the connection between creativity and knowledge. First of all, Dietrich stresses that ‘it is imperative to recognize that knowledge and creativity recruit different brain circuits. While knowledge is primarily stored in TOP (temporal, occipital and parietal cortices) areas, creativity is enabled by the cognitive capabilities provided primarily by the DLPFC (dorso-lateral part of the prefrontal cortex)’. He then explains that there could be different answers to this question, because in some context, as a scientific context, a base of knowledge is necessary both for creative insights and creative expressions, but if we look to other fields, as the artistic field,, ‘it is argued that creative insights do not require specialized knowledge; however, their expression does require exceptional skill’.

Neuroscience shows that when we are calm, relaxed, random, and without specific aim then the associative areas of the brain work best. Creativity means combinative and associative thinking that needs an open space or a scope for development in order to blossom. In 1960s, Rhodes analysed the concept of creativity in four different areas: creative person, creative process, creative product and creative press. The main concept was that the creative act can be understood only under the consideration of these four areas: for instance, “the creativity of the

product is understood as a result of the creativity of the people that develop it, of the working atmosphere and of the process” (López-Mesa, 2003). The concept of creativity, as expressed by Anna Craft in the British Journal of Educational Studies, “has become a growing area of interest once more within education and wider society (...). Since the end of the 1990s, there are numerous government and other initiatives to foster individual and collective creativity, some of this through partnership activity bringing together the arts, technology, science and the social issues” (Craft, 2003). Craft states that creativity has widened its interest so fast in these last decades because of its significance at the social, political and economic levels .

Following up the opinions of these authors, students could identify the concept of creativity as: ‘to think out of the box’! A definition of what creativity is can be interpreted but not defined in a simplistic way.

### **3. What kills Creativity?**

In a publication of the Schader foundation, which intends to bring forward a meticulous dialogue between the social sciences and everyday practices, various theses are presented in order to point out how urban creativity can be nurtured (Liebmann; Robischon, 2003). These assumptions are explained in detail, but thus far they follow certain key terms. Among a call for cooperation, networking, openness, diversity management and contraction the authors list particular practices or rather attitudes that they consider crucial for a nascent environment of creativity, such as the courage to take risks, responsibility, the integration of cultural resources and the straightforward focus on the processes and momentums of projects. In brief, creativity is regarded as a working principle *sui generis* that can be conferred to other fields. So is the reverse already a printout of the factors that dispatch creativity in universities? No! The uncomplicated inversion is always a reduction of complexity and neglects the contextuality and singularity of factual (institutional) problems. It is important to keep in mind the defining correlation of university and creativity, which establishes a number of intramural circumstances that dispose of creative conditions. In the following we will give several negative constituents and influences.

In the critical educational discourse the Bologna reforms in particular have become the symbol for everything in contrast of favourable and creative learning environments. The packed structure of the new degree programs is disapproved all the way by its critics (Prausmüller,

2005: p.73). It has specifically become a problem for those students that are competent enough to study in a self-directed manner. Study programs have been positioned in crammed and overfull schedules where almost every step is awarded or revoked with credit points. This leads to a certain force for students to continuously tag themselves with degrees and grades (Pelizzari 2005, p. 87ff). In this regard, it is crucial to distinguish between extrinsic and intrinsic motivation. The latter is the interest in a matter itself, while the first is merely interested in how engagement is rewarded, e.g. by credit points. In addition a backward pedagogy still prevails. There is little room for perennial discussion, much time is wasted to learn by rote and pass a multitude of exams, in almost the same manner *ex-cathedra* teaching while the perpetual and hierarchal dichotomy of teacher and learner are maintained. The pressure to perform in little time, wafting expectations and requirements, competition among learners, but also the conventionalism in what is defined as knowledge are all paralyzing the development of creativity – simply due to the fact that the mentioned elements constrict the necessary creative space. Many bachelor and master studies do not allow the combination within and across disciplines and main subject areas. Chemistry still seems to be absolutely incompatible with the social sciences. While inter- and even transdisciplinarity have in some areas become keywords, disciplinary thinking up to this time appears to be the latent hegemonic constellation. Besides this manifestation of academic boundaries, there is also the adverse characteristic of studying alone and unaccompanied. Universities have insufficient resources of mentors, tutors, external incentives, and group and project work. The concept of Student Centered Learning (SCL) as an idea of strengthening student commitment and responsibility is widely disregarded in the contemporary university system. Where is there room for creativity as an associative practice and thinking here?

It is important to notice that – in terms of creativity – the monotonous recitation of facts will lead you nowhere. Also the obliged and bound course programme is counterproductive. In order to encourage academic creativity it is indispensable to cut down on these courses and organise student life more flexibly, research-drivenly, and less bureaucratically. Nowadays, universities do not so much give the impression of places where fantasy and inspiration are drawn from, but rather of places of bound realities. Oftentimes students are confronted with distrust in these places as though they were completely unable to find their own ways of studying, learning and solving problems. The new study programs dictate and regulate what is necessary to know in order to perform well. It is interesting to observe that this deeply contradicts the actual demands of the creative economies. However, it is a contradiction that seems to disappear in the liberal

politics of deregulation. The contemporary form of education is not participant-directed. It does not build on the importance of student commitment and own and joint responsibility. It is neither creative nor nurtures creativity.

Only when students are responsible for and control their education themselves, then something we have agreed to call creativity may develop. Based on their own critical senses and active participation, students need to be guided through their study programmes, which offer an international, interdisciplinary and educationally challenging atmosphere. The criticism as expressed so far is an objectionable generalisation. Various universities, study programmes and national profiles have implemented strategies that oppose what has above been described as rather static obstructions to creativity. But for all that, there are still many circumstances that kill creativity.

In order to bring together what has been stated above we can keep hold of pressure, diversion and interferences as taking out creativity. If someone constantly worries about how to pay study fees, about how to get internships or improve job perspectives, creativity is not nurtured, but doomed to reproduce what is already there. In other words, the neoliberal economisation of education is a strong setback for the development of creativity. It is a somewhat fateful misbelief that the best ideas are obtained when working under stress. Strain and pressure apply the brakes to associative thinking by deferring the brain in a state of anguish. In his “encyclopaedia of laziness” (Schneider, 2003) the cultural scientist Wolfgang Schneider has assembled a number of big names, such as Einstein, Brecht, Dostojewski and Charlie Chaplin, who all utilised fainéance, otiosity and idleness as pre-conditions for their creativity. Already in antiquity back-peddling, so to speak, has been understood as an inexhaustible source of inspiration – as long as it is not misconceived as lethargic inaction. However, it is important not to generalise this predication. Everyone has to discover his or her own source of inspiration, because not everyone studies and learns the same way. Creativity is a matter that acts on one’s own behalf. It just happens, mostly undesigned, unscheduled and more accidental than we would commonly expect.

Many universities cannot offer this fundamentally open space of creativity, as they are principally heteronomous and other-directed. Governmental and market parameters issue directives and programmes that these institutions of formal education need to comply with. Nevertheless, universities are social spaces that are constructed and sealed by a number of

different actors. Tragically, financial and degree restrictions exclude many social groups from studying at universities and thus from participating in the creative construction of these institutions. The infamous ivory tower presents itself as disconnected from society and social realities. The question “who studies?” entails a dramatically selective response. It’s a closed and exclusive field – to tie in with Bourdieu. This establishes a social structure of exclusion and reproduction, which has difficulties to produce somewhat new things. When theory and practice continue to be viewed in a dichotomic manner then the latter does not nurture the former and contrariwise. In fact, there could be a very productive and creative friction when our canonical educational system would be exposed to other social realities and cultural resources. Creativity is produced in those spaces, where things are thought differently and in new ways. It is those people, who are currently excluded from universities that are most competent to scrutinize university as an institution. They can truly think differently, because they are capable of asking inopportune questions, which just might be the right ones to ask. Universities are only a place to nurture creativity, if they are willing to be confounded by different modes of thinking.

#### **4. How to foster Creativity?**

Stated how difficult it could be to defy creativity, it is equally challenging to find ways to foster it. Considering the neuroscientific approach, we have to keep in mind that our brain is divided into two halves. The left-hand side is dominant for numbers and language. It is likely to process information logically. The right-hand side of the brain takes a more holistic view of information and enjoys patterns and images. The brain tends to organise things into common patterns and our mind drives to make connections to things it already knows, and then stores the experiences consequently. This kind of brain activity and mechanism can be unhelpful when you are trying to be creative. The school system could be considered quite “conservative-oriented”, and it does not help giving the chance to approach issues laterally or in different ways. That is the main reason why some important changes have to be made in the education system, in the students’ way of living universities and in their study programmes.

To try and give an answer to the question: How universities can nurture students’ creativity? it is relevant to underline some important suggestions and possibilities universities should start to consider in order to help students’ to ‘be themselves’ and to stimulate their creative side. It might be helpful to refer to some hypothetical “creative-profile” even if the definition sounds quite ambitious. There is no formula for identifying a creative person, but some characteristics

are clear: independent - needing to think things through for themselves; inquisitive - having a seemingly unquenchable thirst to understand; iconoclastic - nonconforming, not wed to authority or the status quo; confident - feeling they can face difficult issues and succeed, to believe in themselves determined, convinced they will find a better way if they persist; learners - always keen to acquire new knowledge; intuitive - making leaps of imagination, not needing to stick to the facts; open-minded - no rush to decide, digging deeper, studying new angles. Are universities able to model their structure in order to give space to personal traits? They can actually focus on different features to foster students' creative side.

In this respect, informal education should cover a significant role in the educational development. "Informal learning is usually intentional but not highly structured. Examples include self-directed learning, networking, coaching, mentoring, and performance planning that includes opportunities to review learning needs. When people learn incidentally, their learning may be taken for granted" (Marsick; Watkins, 2001). "The point of education should not be to inculcate a body of knowledge, but to develop capabilities: the basic ones of literacy and numeracy as well as the capability to act responsibly towards others, to take initiative and to work creatively and collaboratively. The most important capability, and the one which traditional education is worst at creating, is the ability and yearning to carry on learning. Too much schooling kills off a desire to learn.... Schools and universities should become more like hubs of learning, within the community, capable of extending into the community... More learning needs to be done at home, in offices and kitchens, in the contexts where knowledge is deployed to solve problems and add value to people's lives" (Leadbeater, 2000: p.:226-227).

Shaping the workload and the study goals accordingly to the mentioned form of education will give the mind the chance to develop and nurture emotional intelligence ("EQ"). Emotional Intelligence is increasingly relevant to organisational development and developing people, because the EQ principles provide a new way to understand and assess people's behaviours, management styles, attitudes, interpersonal skills, and potential. IQ, or conventional intelligence, is too narrow. We have all met people who are academically brilliant and yet are socially and inter-personally inept. And we know that despite possessing a high IQ rating, success does not automatically follow (Goleman, 1995).

It is easy to understand how constraining the modern adopted system is: it is often brought down to a series of exams to be taken with a few extracurricular activities that might be useful to

mental health and to the stimulation of creative personalities. One of the highly underestimated factors is cooperation. We are not just referring to cooperation between universities (as significant as it is), but most of all to the kind of cooperation which should be encouraged among students. Cooperating does not bring just better results, but help bring out original ideas through competition, collaboration, common tasks, brainstorming and negotiation. Components that appear to be “selfish” and independent, work together to create a highly complex, greater-than-the-sum-of-its-parts system.

Two key terms are important in this context: learning organisation and knowledge management system. Both are usually referred to when talking about new management styles in companies and enterprises (i.e. looking at employees as persons and not merely as workforce and focusing on their inner qualities and personal characteristics), even if the most logical institution a learning and knowledge process should take place is still in universities. At the origin of the idea of a ‘learning organisation’ we find two basic concepts: tacit and explicit knowledge. Explicit knowledge is the knowledge that can be written down and relatively easily transferred from one person to the next. Tacit knowledge, on the other hand, is more difficult to articulate because it often arises out of experience. The ontological dimension ranges from the individual at one end of the range and moves from there to team, group, organisation and beyond. “A spiral emerges when the interaction between tacit and explicit knowledge is elevated dynamically from a lower ontological level to higher levels” (Nonaka; Takeuchi, 1995). This spiral is created by the four modes of knowledge conversion through which knowledge is converted from one knowledge type to another. The modes of knowledge conversion include socialisation (from tacit to tacit knowledge), externalisation (from tacit to explicit knowledge), combination (from explicit to explicit knowledge), and internalisation (from explicit to tacit knowledge).

We can consequently understand the way creativity may arise within teams and groups of individuals. What universities are asked to do is to make this process easy for students in order not only in order to share knowledge, but first of all because this is the most natural way for creativity to spread out. Coherently to that, solutions to foster creativity are also found in sharing experiences out of the normal schooling context, so to speak the sphere of nonformal education. An option can be to create different kinds of student associations involved in different activities which could aggregate individuals by personal interests, like the music. “Making music engages, and is increasingly seen to strengthen a vast array of brainpower” (Weinberger, 1998). In addition to that it strengthens student problem-solving and critical thinking skills, adding to

overall academic achievement and school success. It also helps students develop a sense of craftsmanship, quality task performance, and goal-setting – skills needed to succeed in the classroom and beyond.

Another way to foster creativity is to study of one or more foreign languages. Faithfully to the spirit of this article, we will not deeply discuss about competitive advantages given by the learning of a new language, but we will focus on the way it can help foster creative skills. Anyhow, it is very important to underline the importance of a second language as a vital part of the basic preparation for an increasing number of careers. Even in those cases where the knowledge of a second language does not help graduates obtain a first job, many report that their foreign language skills often enhance their mobility and improve their chances for promotion. In addition to any technical skills that foreign language students choose to develop, they also have further tangible advantages in the job market. Foreign language students, whose courses focus heavily on this aspect of learning, often possess outstanding written and oral communication skills. A number of studies in bilingual education also seem to lead to the conclusion that foreign language study can aid and even accelerate the cognitive development of the brain. Along with the certainty that people who know more than one language and culture can communicate more effectively with people of other countries and cultures, it is indeed possible that through learning another language and culture, people become more effective problem-solvers, closer to achieving solutions to pressing social problems because of an increased awareness of a wider set of options (Weatherford, H. Jarold 1986). Foreign language learning is much more a cognitive problem solving activity than other kinds of linguistic activity. Studies have shown frequently that foreign language learning increases critical thinking skills, creativity, and flexibility of mind.

The given examples show that the core of every activity that could give rise to creativity is a form of openness that covers not only academic needs but above all stimulates the mental processes of neuronal activation. To "put together" does not mean just creating shared experiences, but establishing links and connections that may bring to comparisons. For this reason it is important to conclude with something that at first glance may seem a paradox in respect to collaboration, but that turns out to be a powerful engine for the stimulation of ideas and creative solutions: competitiveness.

Competition kills creativity if it is a destructive, winner-takes-all form of competition; if ideas are hoarded so that their owner gets sole credit; if communication stops because others are viewed as “enemies”. But, as the most innovative companies already do, there is a way to foster original ideas by making different teams (within the same organisation) compete with each other. The mechanism is simple: a common (higher) goal, participants grouped by choice with those they work in a better way, and commitment to reach the best effective solution which will be awarded. Multiple parallel projects, in competition with each other, can drive innovation forward because they generate more potential solutions. Groups that have no friction in them (groups where everyone gets along and shares the same beliefs) too frequently fall into group thinking, a downward spiral where bad ideas are never criticised and doomed projects are never terminated, because to do so would damage the group’s wonderful feeling of togetherness. “Group researchers refer to this as cohesiveness, and too much of it blocks creativity. Like so much else with innovation, the right solution seems to be the Goldilocks solution: not too much cohesion, not too much competitiveness, but somewhere in the middle will be “just right”.” (Sawyer, 2007).

We have seen through examples how the brain responds to different stimuli and how these stimuli could be applied to the academic reality so that the creativity could be developed and trained. We have been talking about music as an example to understand how arts in general are capable of giving attention to those features too often overlooked in the field of higher education, as well as the study of one or more foreign languages that will not only lead to the possibility to have more chances in the job market but also to an intense cortical activity. All we can say is that certain activities, incentives, stimuli and so on open up a room for being creative, but these do not function as imperatives. We have discussed also about the way in which the mentioned factors of knowledge and creativity are in close connection, such as companies already operate toward the market: they make greater efforts in the creative field since it is seen as a key to success. We found then that collaboration and competitiveness are far more similar than expected under the neurological point of view and that they can both contribute to creativity. The following conclusions will provide suggestions to the way in which universities can implement their programmes and facilities, based on the argumentations of this article, and develop solutions to nurture creativity in students.

## **5. Conclusion and recommendations**

Asking ourselves the question whether universities can nurture the student's creativity is challenging the university as a whole. Universities are currently alienated from their original role, namely *communities of students and teachers*, because they have evolved into institutions with stakeholders far more diverse than only student and teachers. The *economisation of education* – the capitalistic logic entering education and moreover threatening it with extinction – illustrates this. Students' chances on the labour market has taken precedence over the students' development of self-identity and maturity as the proper outcome of higher education. Although harmonising education and societal fields (e.g. labour market) is necessary for societies maintenance one must realise that creativity is an important element in that same struggle for survival. Norman Jackson states that "Creativity is important to our inventiveness, adaptability and productivity as an individual, and to the prosperity and functioning of our organizations and more generally to the health and prosperity of our society and economy." (Jackson, 2003, p.2) Nurturing rational and science-based knowledge is the paradigm in higher education and the freedom that is needed to blossom creativity is lacking. That is why the purpose of this article was to investigate how creativity and the university can interact. How can this institution be transformed to establish a creative platform for students?

Creativity intertwines three levels of education: formal, informal and non-formal education. Formal education is the canon formation from primary school to higher education; it aims to develop people's analytical abilities. Following Coombs, formal education is an educational system that is highly institutionalised, chronologically graded and hierarchically structured. Informal education, on the other hand, is embedded in what one acquires from being embedded in culture: norms, values, logical frame, etc. Between formal and informal education, non-formal education is located. This is namely educational activities not organised by formal educational systems. At the UNICA Conference we agreed to characterise –not define- creativity as *thinking out of the box*.

We want to give practical recommendations to higher education's policy makers on what we, as students, think must be implemented if creativity is to be nurtured. In defining those recommendations we have to know first which negative constituents are killing students' creativity. Firstly, the practice of labelling students with degrees and grades, which stimulates extrinsic motivation, instead of intrinsic motivation, i.e. interest one has in a matter itself. Consequently this diminishes the creative space for which we advocate here, due to for example time pressure and unhelpful competition. Secondly, the memorising and repeating

which is considered as intellectual improvement, even though it does not leave any space for critical analysis, personal explorations, and imagination. Thirdly, the fact that students are bound to fixed, pre-designed study programmes annihilates students' responsibility for their education. One has to acknowledge that not everyone learns and studies the same way. That is why study programmes have to adapt to individual educational needs. Organising student life more flexibly, encouraging students to do more research, and making universities' structure less bureaucratic students can be offered the space needed to develop creative thinking.

The outcomes of the discussion that we had at the UNICA Conference can be summed up in eight statements:

1. Implementing firstly more courses taught in another language than the country language, because learning another language has a decisive impact on the quality of the learning process. We are thinking especially of English, as the new lingua franca and consequently the gateway to communication with the world. Secondly, the possibility to learn foreign languages in the regular curriculum. Being able to talk a foreign language or foreign languages increases the sensibility towards the Other because contact with other cultures becomes easier. Moreover talking a foreign language (English or another language) stimulates the cognitive development of the brains, it is more a cognitive problem solving activity than an overall linguistic activity. Furthermore, studies have shown that foreign language learning increases critical thinking skills, creativity and flexibility of the mind.

2. Universities should support Student Centered Learning (SCL). Gibbs states that SCL "gives students greater autonomy and control over choice of subject matter, learning methods and pace of study" (Gibbs, 1992, p. 23) In other words, students must have a say in *what* is learned, *how* it is learned and *when* it is learned. Furthermore we also agreed that teachers must follow didactic courses to improve the quality of their teaching skills in order to keep students interested.

3. Universities should focus more on informal education by for example using their resources in a more efficient way so that extracurricular activities can take place. Very concretely, by keeping lecture halls accessible to give students a place where they can share experiences next to the everyday school occupations. We were thinking about organizing a Cinema Political event,

giving all kind of student associations the opportunity to gather for discussions, or giving a place for people to play music.

4. Somehow it is desirable to see a system designed that acknowledge the students' involvement in extracurricular activities, by for example mentioning them on the diploma.

5. Cooperation within the universities and between all actors must be improved to favour the students' position. Cooperation does not bring just better results, but makes original ideas become effective through collaboration, common tasks, brainstorming and negotiation. Moreover, the cooperation between the university and the local community must also be improved in a reciprocal manner. The university cannot stay an island, but rather their relationship to the local community must be interdependent. For example, the university can do research on a certain specific problem the local community is facing.

6. Universities should help students to connect with future employees (companies, NGO's, etc. ) to show the opportunities they have. By this external incentive they have the chance to gain experience about their prospects and job fields in which they are interested. Nowadays, students cannot complain about the lack of possibilities, for example to go abroad or the wide range of internships, but the communication about those opportunities must be organised in a more efficient way.

7. Universities must organise competitions between (at the international level) and within universities, and *within every field (!)*, to improve creative thought and to give students the opportunity to meet other students in their field of study.

8. We recommend a more innovative way of examination, e.g. to give more case studies in order to improve active learning and to prevent the counterproductive monotonous recitation.

Recommendations are made to be taken into consideration and -hopefully- to be implemented. Policy makers must realise that creativity is important for each individual but also for the world's future. Universities as the key role players of this future have therefore an important task to create a flexible environment where creativity can blossom!

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