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CREATIVITY IN HIGHER EDUCATION

REPORT ON THE EUA CREATIVITY PROJECT 2006-2007

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FOREWORD

European universities are uniquely positioned to advance knowledge creation and European social and economic development through their creative responses to complex questions. They have been rightly recognised as major actors in the Lisbon process. We cannot expect, however, that creativity will thrive in higher education without the intentional and determined efforts of institutions and external stakeholders.

It is for this reason that EUA designed the Creativity Project as part of a palette of activities offered by EUA, such as the Institutional Evaluation Programme and a workshop series, aimed at strengthening European universities. The Creativity Project is also connected to a series of current and past EUA projects such as the Quality Culture, the Doctoral Programmes and the Doc Careers projects. All these activities point to the need for engaging institutions and stakeholders in a major change process and provide practical recommendations for doing so.

Partners in the Creativity Project were invited to formulate operational recommendations to all actors involved because fostering creativity in higher education will require the joint efforts of higher education institutions, governments and other external partners.

As an exploratory project, the report also outlines various routes for taking its findings to the next level.

The European University Association would like to invite its partners in higher education, government and society to join in a dialogue on how to foster creativity in European higher education.

Professor Georg Winckler
EUA President

ACKNOWLEDGEMENTS

EUA would like to thank our partners from 32 European higher education institutions who joined us in this exploratory project. They agreed to tread with us on as yet fairly new grounds and generously shared their experience and expertise.

Special thanks go to the coordinators and facilitators for providing the basis for this project report through the four network reports. Moreover, EUA is thankful to all those institutions that hosted project meetings for their kind assistance in organisational and administrative matters.

EUA is grateful to the European Commission for providing the major part of the funding for this project through its Socrates Programme and particularly Peter van der Hijden for his unfailing support.

EUA especially sought to invite higher education institutions focussing on art education to participate in the Creativity Project in order to create a common forum for the aesthetic and scholarly disciplines. We gratefully acknowledge the kind assistance of Martin Prchal of the Association Européenne des Conservatoires, Académies de Musique et Musikhochschulen (AEC) and Truus Ophuysen of ELIA - European League of Institutes of the Arts in drawing attention to this project among their members.

Finally, the Creativity Project steering committee, chaired by Professor Pierre de Maret, former Rector of Université Libre de Bruxelles, has been most supportive and provided important input on content throughout the project.

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EXECUTIVE SUMMARY

Introduction

Contemporary society is characterised by rapid and complex change processes encompassing all spheres of life. Creativity has been identified both as a key factor for adequately addressing the challenges caused by these changes as well as a major driving force towards knowledge creation and social and economic advancement through the development of a knowledge society.

Creativity has received a high degree of attention from scholars, professionals and policy makers alike in recent years. Yet, despite the significant overall interest in the topic, so far relatively little attention has been paid in Europe on how creativity and innovation can be enhanced within and by academe. This is particularly unexpected given the key role assigned to higher education for the development of a knowledge society and for achieving the Lisbon objectives of the European Union.

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. The complex questions of the future will not be solved "by the book", but by creative, forward-looking individuals and groups who are not afraid to question established ideas and are able to cope with the insecurity and uncertainty this entails. If Europe should not succeed in strengthening creativity in higher education, the very goal of a European knowledge society would be at stake. Purely mechanistic approaches geared towards reaching predefined targets will certainly not allow European higher education institutions to contribute adequately towards this ambitious objective.

Project objectives and method

"Creativity in Higher Education", a project initiated by the European University Association (EUA) and co-funded by the Socrates Programme of the European Commission, was designed as an exploratory activity to enhance our understanding of the concept. We then hoped to contribute to the advancement of the European knowledge society by identifying good practices and providing higher education institutions and their major external stakeholders – governments, quality assurance agencies and other partners – with operational recommendations on how to foster creativity.

To achieve this objective, EUA invited 32 higher education institutions from 21 countries representing diverse disciplinary foci and missions (art, technical, other specialised and multi-faculty universities) to cooperate in four networks. These would examine a range of conditions that may promote or hinder creativity in relation to the following themes:

I. Creative partnerships: HEIs and external stakeholders

II. Creative learners: Innovation in teaching and learning

III. Creative cities/regions: HEIs, NGOs and governments

IV. Creative HEIs: structures and leadership

This project report builds on the insights, findings and recommendations outlined by the four network reports, which are complemented by conclusions drawn from the literature on creativity.

Main findings and conclusions

The project outcomes strongly support the notion that the participation of representatives from very diverse HEIs in the four networks, and especially the combination of the arts and other disciplines, provided a highly favourable framework for tackling a multifaceted topic like creativity. In fact, **diversity** was identified as a crucial factor for strengthening creativity on a number of levels: composition of research teams, among students and staff, teaching and learning methods, joint projects with external partners etc.

The partners in the Creativity Project encouraged universities to transcend the conventional opposition between the "ivory tower" and the world around it by balancing active engagement in society with a certain distance from the world (transforming the ivory tower into a "watch tower"). Project partners saw as crucial the preserving of these two spheres as separate entities while, at the same time, ensuring exchanges between them. This would safeguard the special strengths of higher education that can only be developed by enjoying academic freedoms and the (at least partial) freedom from practical concerns such as applicability of research results and funding, but at the same time would prevent its problematic effects – isolation and self-reference.

Ethical questions formed the background to many of the deliberations within the networks. This finding is noteworthy since **values and ethical principles** have so far received only cursory attention in the HE reform and modernisation debates on the European level. Values are of particular importance in a political climate in which many European universities are under considerable and increasing pressure from various sides to generate funding from private sources. While the diversification of funding sources was viewed by project partners in positive terms, they also emphasised that cooperation with external partners should not be accepted at any price. Higher education institutions should only consider external partnerships if they benefit the mission of the university in terms of education, research or service to society and provide mutual advantages for both sides.

Principles such as the quest for knowledge for the sake of knowledge; offering an education that does not only serve the needs of the labour market but also equips graduates with a sound basis for contributing to society in many different ways; and striving towards providing society with innovative services that build on the institution's expertise in education and research are the very essence and major strengths of higher education. Moreover, these principles reflect values which form a sound basis for the sustainability and profitability (in a material and immaterial sense) of HEIs' activities.

The recruitment and selection of students and staff, and staff development and reward schemes were identified as key factors for fostering the **human potential** for creativity in higher education. In terms of teaching and learning, project partners suggested employing a variety of settings and arrangements in which diverse roles are assigned to students and teachers. In all of their internal and external activities, HEIs should promote a culture which is tolerant of failure and thus encourages the members of the university community to question established ideas, to go beyond conventional knowledge and to strive towards originality.

Many processes and practices of central concern to higher education institutions, e.g. funding mechanisms or quality processes, tend to be oriented towards the past rather than the future, precisely because they are based on indicators of past performance. The network reports emphasised the limitations of such practices in the context of creativity and underlined the importance of raising awareness for this problem both within higher education as well as among external stakeholders, as many of these processes are at least partly beyond the direct influence of HEIs. As an alternative approach, HEIs were encouraged to strive towards a **future orientation** by employing a proactive attitude, i.e. to actively seek to influence future developments, rather than be grounded in the past or simply react to external pressures.

Quality mechanisms set boundaries and indicate what is appreciated and valued in higher education and what is not. They reflect value systems, which have to be monitored to ensure that they mirror the institution's ethical and strategic choices. Quality processes have the potential to strengthen creativity and innovation if they are geared towards enhancement and focus on the capacity to change as a way to incorporate a future dimension. However, they can also have highly detrimental effects if they stress conformity over risk-taking, are oriented towards the past rather than the future and develop into burdensome bureaucracies.

Project partners encouraged HEIs to explore the concept of a **learning organisation** in their approaches to governance and management, i.e. an organisation in which all members seek to reach common goals through collective and individual learning. However, as important as structural elements are, they should be complemented with ethical and cultural concerns in order to create an institutional milieu favourable to creativity. The institutional leadership should embrace its overall responsibility and balance top-down management with delegating specific decisions to staff and students, as appropriate, in order to ensure wide ownership for change processes within the university community.

The following ten key recommendations to European higher education institutions, governments, quality assurance agencies and other external partners have been derived from the findings and conclusions of the Creativity Project.

Ten key recommendations

Higher education institutions

1. Striving towards a creative mix of individual talents and experiences among students and staff, providing common fora for researchers from different disciplines and offering diverse learning experiences will likely result in conditions favourable to the creativity of the higher education community. Structured exchanges between the arts and other disciplines can be particularly fruitful.

2. Diversity within institutions should be complemented with engagement, outreach activities and cooperation on the local level and beyond. Relations with external partners expose the academy to expertise not found within its walls and prevent isolation and self-reference. Cooperation between HEIs and external partners should follow the model of virtuous knowledge creation by aiming towards co-creation of knowledge through a two-way communication process to the mutual benefit of both partners.

3. Any activity of HEIs has to stand the test of whether it fosters the public mission of the institution in terms of teaching and learning, research or service to society. If it does not fulfil these basic ethical requirements, the activity should not be undertaken. Any profits generated by HEIs should be geared towards socially inclusive wealth creation.

4. Universities should look towards the future in all their activities, rather than being grounded in the past. The high level of expertise of the university community in diverse fields uniquely qualifies HEIs to strive towards "being one step ahead" of the times by going beyond established knowledge, questioning time-honoured ideas and trying not only to solve current problems but also be proactive in identifying issues of future relevance. In keeping with this forward-looking orientation, HEIs should work towards developing internal quality processes that support the creativity agenda by being geared towards the future and avoid over-bureaucratisation.

5. It is recommended that HEIs explore the concept of a learning organisation for their management and governance structures. As important as these structural elements are, they must be complemented with ethical and cultural concerns in order to create an institutional milieu favourable to creativity.

6. Students and staff need to be provided with institutional structures and cultures that aim at balancing stability with flexibility. The human potential of the university should be provided with the safeguards necessary to encourage risk-taking. At the same time, students and staff should be prepared to contribute towards shaping future developments and be ready to address the insecurity and uncertainty this entails.

7. The institutional leadership should embrace its overall responsibility and balance top-down management with delegating specific decisions to staff and students, as appropriate, in order to ensure a wide ownership of change processes within the university community.

Governments

8. Legal frameworks, funding mechanisms and policy priorities on the local/regional, national and European levels may exert considerable influence on creativity within the higher education sector. Governments need to be aware of their role in advancing the creativity agenda and the responsibilities this entails. Higher education institutions must be provided with the financial and academic autonomy necessary for acting on the recommendations outlined in this report. Governments should provide the necessary frameworks and support to enable HEIs to base their activities on their values and missions. Specifically, governments should refrain from pressuring institutions to generate profits at any price. In parallel, governments should assess the degree to which the legal frameworks encourage entrepreneurship in the private sector and encourage banking and other financial institutions to support the creativity agenda of higher education.

Quality assurance agencies

9. Quality assurance agencies should be aware of the potentially detrimental effects of external quality mechanisms if they stress conformity over risk-taking, are oriented towards the past rather than the future and develop into burdensome bureaucracies. QA agencies are invited to explore jointly with higher education institutions how external quality mechanisms may strengthen creativity. The ultimate objective would be the development of quality systems which foster the creativity agenda. This means placing enhancement and an institution's capacity to change at the heart of the evaluation process.

External partners

10. Higher education and other sectors of society have long existed in separate spheres. Consequently, there is a mutual lack of knowledge. Awareness on both sides of this shortcoming is the first step towards appropriately addressing this constraint and overcoming it. External partners are invited to cooperate with higher education institutions on matters of common interest, leading to mutual benefits and in keeping with academic values and missions.

1. INTRODUCTION

Contemporary society is characterised by rapid and complex change processes that encompass all spheres of life. Creativity has been identified both as a key factor for adequately addressing the challenges caused by these changes as well as a major driving force towards knowledge creation and social and economic advancement through the development of a knowledge society.

Creativity has received a high degree of attention from scholars, professionals and policy makers alike in recent years. A growing number of publications (cf. reference list) and conferences have explored the subject from various angles, and some governments have explicitly singled out this topic as a policy priority.

Despite the significant overall interest in creativity, so far relatively little attention has been paid in Europe to how creativity and innovation can be enhanced within and by academe. This is particularly unexpected given the key role of higher education for the development of a knowledge society and for achieving the Lisbon objectives of the European Union.

Progress towards a knowledge-based society and economy will require that European higher education and its partners in society and government give creativity their full attention. The complex questions of the future will not be solved "by the book", but by creative, forward-looking individuals and groups who are not afraid to question established ideas and are able to cope with the insecurity and uncertainty this entails.

As centres of knowledge creation, European universities[1] have to provide a milieu that favours the creativity of the human potential, which in turn needs to receive appropriate support from governments and other stakeholders. If Europe should not succeed in this undertaking, the very goal of a European knowledge society would be at stake. Purely mechanistic approaches geared towards reaching predefined targets would certainly not allow European higher education institutions to contribute towards this ambitious objective.

Yet successfully fostering creativity in higher education will most probably provide Europe with a competitive advantage in its endeavour to develop "the most competitive and dynamic knowledge based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion" (Lisbon European Council 2000) and for Europe's "educative and training systems [to become] a world reference by 2010" (Barcelona European Council 2002).

"Creativity in Higher Education", a project initiated by the European University Association (EUA) and co-funded by the Socrates Programme of the European Commission was designed as an exploratory activity to enhance our understanding of the concept and to address the question of how creativity can be strengthened in European higher education. In this project the term creativity has been used in its broad meaning as encompassing originality coupled with appropriateness in all disciplines including the arts.

The overall goal of the project has been to contribute to the advancement of the European knowledge society. This objective is referred to as the "creativity agenda" in this report.

Rather than adding to the growing body of scholarship on the topic, the partners in the Creativity Project wished to complement the literature with findings based on institutional practice. Building on the conclusions of major books and articles on the subject, project partners collected and analysed institutional

1 The terms university and higher education institution (HEI) or simply institutions are used synonymously throughout this text.

know-how and experiences with a view to identifying good practices and providing higher education institutions and their major external stakeholders – governments, quality assurance agencies and other external partners – with operational recommendations on how to address the topic in their respective contexts.

The partners in this project were invited to examine a range of conditions that may promote or hinder creativity and which are related to four themes: partnerships, learners, cities/regions and institutional structures and leadership. This project report builds on the insights, findings and recommendations outlined by the four network reports, which are complemented by conclusions from the literature on creativity. Moreover, it lists examples of good practice that were identified by the networks.

2. CONCEPTUAL FRAMEWORK

Creativity is frequently associated with notions such as talent, spontaneity and coincidence, i.e. factors that cannot be influenced or determined but ultimately are left to chance. We find this expressed, for instance, in the popular idea of a "creative leap" or "flash of genius" as the origin for major scientific, artistic or social breakthroughs (e.g. Newton observing a falling apple).

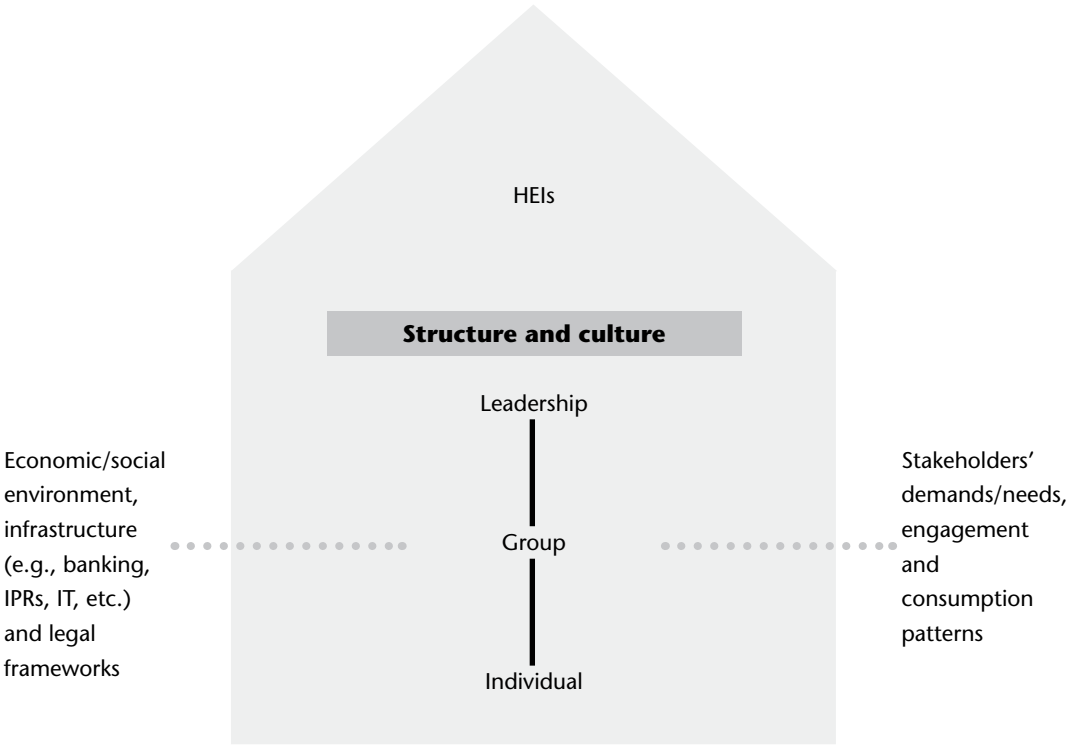
However, the modern literature on creativity reveals that, although factors such as luck or chance certainly play a role, creativity in higher education may be enhanced (or hindered) by specific institutional and environmental situations as well as cultural factors. Favourable conditions include team work, cross cultural exchange grounded in socio-cultural diversity, trans- and interdisciplinarity, time and resources and a risk-taking culture that tolerates and even encourages failure (e.g. Landry 2000, Tepper 2005).

This has led to the hypothesis that higher education institutions and their external stakeholders may influence their level of creativity by enhancing these conditions through specific processes and structures at different levels and in different spheres. Figure 1 shows:

- the different **levels**, which include actors such as the leadership of an institution and the individuals and groups that compose it;

- the different **spheres**, which refer to:
  - the **internal organisation**, i.e., the institutional structures and culture
  - the **external environment**, including the stakeholders, the general socio-economic environment as well as the financial and legal preconditions that promote (or hinder) creativity, innovation and invention.

Figure 1: Internal and external factors influencing creativity in HEIs



Internal organisation: structures and culture

Creativity is linked to creative individuals but it also results from interaction among individuals. The organisational structure of a higher education institution can enhance or impede creativity, depending on how it organises and re-organises its teams and units, i.e. how these teams and units are formed and re-formed and the ways in which group members are encouraged to work together and to seek new partners.

Institutional leadership has a special role to play in this context by developing and implementing structures favourable to creativity. Moreover, leaders can promote such a strategy by communicating the institution's intent, and developing clear incentive and reward systems, as well as administrative support and financial risk management.

Developing the appropriate infrastructure is essential to promoting creativity, but these efforts may be fruitless if the culture of the organisation is not changed (Birley 2002). The culture of an organisation affects the creativity of its members. Particularly, a culture that encourages risk taking and accepts failure will encourage its members to be creative and innovative (e.g. Markoff 2005, Walcott 2002).

External environment

According to Richard Florida (2004, 2005), the key to creativity lies in a formula that includes the three T's: Technology, Talent and Tolerance. If this assumption is correct, then higher education institutions are central to a region's creative capital since they supply at least two (i.e. Talent and Tolerance) if not all three of the T's.

These conditions, however, are not sufficient. Legal frameworks, banking structures, the availability of venture capital etc. are other external factors that will significantly, though indirectly, influence creativity in the higher education sector (e.g. Wu 2005).

2.1 Network themes

Based on this conceptual framework, the project was designed to explore creativity from two angles: (1) the creativity of individuals and of groups who are members of the higher education community, i.e. creativity in teaching and learning, scholarship and innovation and (2) the organisational creativity of higher education institutions in the ways they address their missions in teaching and learning, research and service to society, i.e. creativity as it manifests itself in institutional structures, processes and cultures.

With this twofold understanding of creativity in higher education in mind, four networks[2] of higher education institutions were set up and invited to focus on the following themes:

I. Creative partnerships: HEIs and external stakeholders

This network explored how higher education institutions can enhance their creative potential through cooperation with external stakeholders. It focused on developing recommendations for institutions, their external partners and governments and on what each group may contribute towards that goal.

2 Please see the annex of this report for a list of the partner institutions in the networks.

II. Creative learners: Innovation in teaching and learning

This network explored the possible ways in which creativity can be fostered through the teaching and learning process. Specifically, it concentrated on three dimensions: creative competences in graduates, the conditions influencing these competences and appropriate conditions for teaching and learning at higher education institutions.

III. Creative cities/regions: HEIs, NGOs and governments

By and large, knowledge production is city-based and the most knowledge-creative regions are anchored around a city. This network worked towards reaching an understanding of those universities which seek to be creative in their relationships with their cities and regions.

IV. Creative HEIs: structures and leadership

The network focused upon the internal environment of HEIs and the factors that can boost creativity, particularly upon issues such as internal structures, leadership and group dynamics. It discussed possibilities for structural and cultural changes in HEIs which could improve their creative and innovative potential.

3. THE PROJECT

3.1 Selection of project partners

In November 2005, EUA invited European higher education institutions to submit their applications for participation in the Creativity Project based on an open call. Out of the 69 applications from 27 countries, 33 institutions from 21 countries were selected by the project steering committee. One institution, which had been selected from a non-Socrates country, did not participate in the project due to lack of funding.

The selection was made on the basis of the quality of the application (i.e. demonstrated experience with fostering creativity), geographical distribution and with a view towards putting together institutions with a wide range of different missions.

The selected HEIs were grouped into four networks, each one coordinated by one partner institution. As mentioned above, the literature on creativity indicates that human diversity and access to varied talents play an important role in fostering creativity. Based on this finding, the project steering committee sought to assemble as wide a range of institutions as possible in terms of disciplinary foci and missions (art, technical, other specialised and multi-faculty HEIs) and geographic distribution in each network.

Because relatively few HEIs specialising in art education are EUA members and therefore might not have learned about the call, EUA had particularly invited applications from these institutions in order to ensure that the project provides a common forum for all disciplines including the arts. In each network at least one partner institution was a conservatoire or other type of art school.

3.2 Project schedule

Project activities commenced in January 2006 with a launch meeting that gathered together the project steering committee, the four network coordinators and facilitators. The purpose of this meeting was to clarify the major project objectives and activities.

Between March and November 2006 each network met three times, with each meeting hosted by a different partner. The network meetings were dedicated to discussing the concept of creativity and the analysis and exchange of good practice examples from the partner institutions on how the higher education sector can foster creativity related to the four network themes. Each network partner produced a background report on their respective institutions (key institutional characteristics and strategic priorities). Furthermore, each partner wrote an institutional report outlining the institution's expertise and experience in a specific aspect of creativity related to the overall network theme. These reports were circulated within each network.

In addition, the networks were invited to provide an interim report on their activities up to the conclusion of the second network meetings by the end of June 2006. After the third network meetings, each network presented a draft report.

In October 2006 the four network coordinators and facilitators met again with the project steering committee to discuss the draft reports and exchange experiences between the networks. By mid-December 2006 each network finalised its report. At each stage, the network interim reports, draft network reports and final network reports were circulated among all project partners and the steering committee. The network reports are available from the EUA secretariat upon request.

The EUA secretariat wrote the present project report under the responsibility of the Creativity Project steering committee. It is based on the four network reports and it integrates some findings from the literature on creativity.

4. DEFINING CREATIVITY

The literature on creativity suggests that the definitions of the term vary considerably and seem to depend to a high degree on the contexts in which the topic is discussed. In line with this, all four project networks agreed that no simple or "one-size-fits-all" definition of creativity in higher education is possible.

Yet the network reports also indicate that the discussions on possible definitions were very fruitful insofar as they provided an important starting point for identifying a number of dimensions of creativity.

All networks struggled with the question of how to identify good practices related to the project topic, i.e. how to distinguish between manifestations of creativity and activities that are merely worthwhile or relevant. This difficulty was obviously closely connected with the overall difficulty of defining creativity but all networks eventually succeeded and identified a range of good practices through the explicit and implicit identification of core characteristics for creativity in higher education.

Thus, as had been hoped, the diversity of projects partners in terms of their respective institutional missions, disciplinary foci, cultural and national/regional backgrounds certainly seems to have assisted them in understanding the concept of creativity by allowing for the identification of common denominators or core characteristics.

4.1 Dimensions

A primary distinction has been made between creativity as a (mental) process and creativity in terms of the outcome of that process. It is important that these two aspects are understood as being distinct from one another, because creative ideas or actions do not always yield creative results. Conversely, creative outcomes are not necessarily based on creative processes.

Yet at the same time these two dimensions of creativity should be dealt with in an integrated manner. In other words, creativity should be viewed not just as a goal in itself, but should be explored in a manner that links the methods and practices employed to reach certain objectives with the results of these actions.

Furthermore, although they did not use similar terminology in all cases, the network reports revealed that the project partners all differentiated among the following dimensions:

- Individual creativity as it pertains to individual members of the academic and administrative staff and students.
- Collective creativity that pertains to the creativity of groups and refers to the successful establishment of mutual understanding and productive collaboration.
- Ethical dimension of creativity: for any processes and/or their outcomes to be considered truly creative in the higher education context, their social and ethical consequences need to be taken into account.
- Institutional creativity, which refers to the conditions promoting creative organisations.

4.2 Core characteristics

In order to identify manifestations of creativity, the networks attempted to answer the following questions: When do we know that a creative process is taking place? How can we identify a creative outcome? Which practices at higher education institutions create an environment favourable for creative processes?

When tackling these questions, the networks realised that the answers were often facilitated by attempting to define the opposite of creativity. By employing this approach the project partners identified the following core characteristics for creativity in the higher education context:

- Originality: creativity is not about reproduction, but entails new developments (which albeit may build on established knowledge) and requires a certain disrespect for established ideas and concepts as well as personal courage.
- Appropriateness: not every novelty is creative, but creativity manifests itself in new approaches that are appropriate to the problem at hand.
- Future orientation: that is, not looking backwards, but being concerned with what may happen in the future and dealing with the resulting insecurity and uncertainty.
- Problem-solving ability: the capability to identify new solutions to problems; this requires "thinking outside the box", looking at things from a new angle, venturing off the beaten path and risking failure.

5. FOSTERING CREATIVITY IN HIGHER EDUCATION – MAIN FINDINGS

5.1 Diversity

Diversity in terms of e.g. talents, interests, previous qualifications, experience and social backgrounds was identified as a crucial factor for fostering creativity among students and staff. Both research and teaching teams may profit from a diversity of disciplinary foci among its members. Cooperation with external partners provides HEIs with the opportunity to benefit from expertise not found within the institution and from the creative mix of "insiders" and "outsiders".

As noted earlier, the four networks in the Creativity Project had been composed of institutions reflecting a wide range of missions, disciplinary foci and geographical distribution. All four network reports suggest that the project partners were very much aware of their diversity and the challenges this presented them with. However, they also appreciated the opportunity for exchange with partners with whom they otherwise would not have had much contact and saw the benefits of working with a diverse group on the topic of creativity. As the *Creative learners* network put it, the background reports on each partner institution, which had been prepared prior to the first network meeting, "gave the group an idea of the diversity represented in the network and encouraged us to further explore how these differences influence our approach to creativity."

One of the potential pitfalls of stressing the importance of diversity for creativity lies, of course, in the ubiquity of the concept: diversity has been celebrated in so many contexts that it has become a cliché in many ways, which, in turn, has made it difficult to determine its exact meaning in a specific environment. Moreover, there is the risk that diversity is merely paid lip service, but is not embraced in practice. The *Creative regions/cities* network highlighted as one particularly beneficial aspect of such partnerships that they may bring together the perspectives of academics with those of practitioners and professionals to combine the quest for knowledge with the development of the region/city. The network stressed that if European higher education institutions and their regional/city partners were to really embrace this particular kind of diversity, "*rather than simply saying how wonderful diversity is,*" they would be able to significantly enhance their creative potential in research, education and knowledge-based services.

The principle of diversity was also explored by the *Creative partnerships* network, which elaborated on the creative potential of "tensions and dissent" surfacing in diverse groups which assemble a range of academic disciplines, professional and cultural backgrounds, age groups etc. This network report underlined the possible positive effects of heterogeneity, which is an inherent factor in all partnerships between higher education institutions and external partners. More specifically, the network commented on the important role that "unconventional teachers" may play in HEIs. Such teaching staff may come from inside or outside the HEI, but cooperation with external partners can be one particularly fruitful means of recruiting teachers with diverse backgrounds who bring new perspectives to the academy and encourage students to go beyond the traditional boundaries of a specific discipline.

The same principle holds true for research: both institutional experience as well as scholarly studies indicate that research teams profit from a diversity of ages as well as disciplinary and cultural backgrounds among its members. This can encourage interdisciplinarity and transdisciplinarity and may thus lead to better solutions to research problems than could most likely be achieved within more homogeneous groups.

The network also mentioned the related phenomenon that the "creative phase", during which individuals are at their most productive, seems to be rather short. Its implications for academic recruitment are twofold. First of all, rather than paying attention to a candidate's past achievements, it may be preferable to attempt identifying someone's potential, since an academic who has been highly creative in the past will not be so indefinitely. Secondly, it may be advisable to constitute research teams by bringing together

promising, but not as yet successful individuals (who may be just about to embark on a major finding) with those beyond their prime (who will support their more innovative colleagues with their expertise on past developments and experience).

Another important area in which HEIs should pay attention to diversity is the student body. Creativity within an institution can be supported by aiming for a student body which is diverse in terms of talents, interests, previous qualifications, experience and social backgrounds. As the *Creative learners* network pointed out in this context, students coming from non-traditional backgrounds can prove to be a particularly important "human learning potential" for the creativity agenda.

It is certainly true that many of the factors influencing the recruitment of students from disadvantaged backgrounds are due to wider societal issues which lie beyond the direct influence of the higher education sector. However, HEIs ignore this issue at their own peril. The network report emphasised that they do have some leeway and influence in this context and should explore their options, in particular in the context of selection and admission processes.

How can these findings on the significance of diversity be integrated into institutional practices? The report produced by the *Creative HEIs* network recommended that institutions explore opportunities for generating diversity both internally as well as externally. Specifically, the partners in this network suggested pooling research capacity within the institution by, for instance, the establishment of research clusters consisting of researchers from different disciplines who previously worked separately on related problems. These clusters may also be open to collaborations with external partners. On the local level, institutions may also find it beneficial to form research groups (e.g. by merging existing centres at different institutions) consisting of staff from different HEIs. Not only may such arrangements boost research output, but they may also be very efficient by maximising the use of resources and creating synergies on various levels.

In terms of teaching and learning, interdisciplinary team teaching has been shown to be one way of promoting, and benefiting from, heterogeneity. Specifically, one partner institution requires all new teaching staff to complete a certificate course on this subject. In the context of doctoral programmes, the establishment of interdisciplinary "doctoral schools" may be a suitable structure for transcending traditional disciplinary boundaries. Moreover, allowing for electives from a wide variety of disciplines would encourage diversity on the curricular level. Offering students the opportunity to spend some time in placements with external partner organisations related to their degree studies can be another way to create a diversity of learning environments for them.

It is interesting to note that both the *Creative partnerships* and the *Creative HEIs* networks mentioned the importance of external teaching staff. As outlined above, the first network elaborated on the concept of "unconventional teachers" who could come from inside or outside the institution. Yet we are more likely to find certain characteristics of the unconventionality that the network envisaged in external staff. These include experience and expertise in fields that are not directly relevant and therefore rarely found in higher education (e.g. entrepreneurship) as well as a generic outsiders' perspective that by definition may only be provided by external staff.

The *Creative HEIs* network explained in this context that hiring external teaching staff may also be cost-effective insofar as successful and competent external partners are frequently prepared to share their expertise with students for a relatively modest remuneration. Obviously, neither of the networks meant to imply that external teaching staff should be the rule, they merely suggested complementing internal staff with external human resources in certain key areas for which there exists no or hardly any expertise in the institution itself in order to create a creative mix of "insiders" and "outsiders".

5.2 Values

Values and ethical principles form the essence and major strength of European universities and provide a sound basis for the sustainability and profitability (both in a material and immaterial sense) of HEIs' activities in terms of education, research and service to society. Values are of particular importance in a political climate in which many HEIs are under considerable pressure to increase their income from private sources.

It is well worth noting that three out of four network reports (*Creative partnerships, Creative learners and Creative cities/regions*) debated the importance of values, i.e. what one of them referred to as the ethical dimension of creativity.

Creativity in itself is not necessarily good; there is ample historical evidence of scientific and technological innovations which have led to ethically disastrous consequences. At the same time, not everything that is ethical is creative. However, linking creativity to ethics strengthens the concept in a number of ways. Doing what is right to the best of one's knowledge is, after all, one major precondition for higher education to fulfil its mandate towards society. In a more practical vein, by insisting that higher education institutions check any of their actions as to their potential ethical implications, project partners emphasised the importance of the "big picture" for decision-making. Taking all known factors into account is considered one of the standard "good practices" for identifying sustainable solutions. In turn, the lateral thinking which is required for doing this successfully is closely associated with creativity.

Moreover, emphasising the significance of values perhaps reflects an unease felt in the higher education community with the predilection for the procedural aspects of higher education reform (e.g. management tools, governance structures) which is apparent in various fora and a realisation of the need to balance these technical elements with a concern for ethics and academic values.

Not surprisingly there are no easy answers as to the definition of these values, but the networks identified two basic principles:

- Any activity by a HEI has to stand the test as to whether it fosters one or more of its core functions: education, research and service to society. If it does not, this activity should not be pursued.
- In any cooperation between HEIs and external partners, it is imperative that both partners benefit from the activity equally. Only "win-win" partnerships can be considered ethically sustainable.

The following subchapters highlight two examples of how network partners envisaged the application of the ethical dimension of creativity.

5.2.1 Virtuous knowledge sharing

Cooperation between HEIs and external partners is growing, and in most of these instances the emphasis is on conventional knowledge or technology transfer, that is, the transfer of the outcomes of academic research - inventions or discoveries - into applied technologies and product innovation.

The *Creative cities/regions*-network pointed out that while this model may have valid and laudable objectives, it is ultimately too simplistic to be characterised as creative because it cannot appropriately address the challenges of the knowledge society. This was based on two major arguments: first of all, this conventional model tends to focus on the hard sciences and to overlook the potential contributions of the humanities, social sciences and the arts. Secondly, and most importantly, this model limits the knowledge transfer to a one-way linear process, which cannot and does not take due account of the complexities of the academy

or of society. Conventional knowledge transfer thus has a tendency to be self-restricting on a number of levels.

As an alternative to the model outlined above the network suggested a concept it called "virtuous knowledge sharing". This notion is built on the conviction that creative knowledge production is a sharing process. "The insights of academe combined with the insights of practice will generate a knowledge sharing and a knowledge interchange that brings mutual benefit to both sides." Virtuous knowledge sharing proposes that two very different sectors – academe and society at large – join forces in the quest for knowledge and problem solving. It suggests creating a pool of very diverse talents, expertise and experiences, which would be well equipped for tackling a wide range of questions and problems.

Although virtuous knowledge sharing insists that partnerships must be mutually beneficial and support the institutional mission, this does not imply that they should be of a philanthropic nature exclusively. On the contrary, cooperation between HEIs and their partners may most certainly also generate profits, among other goals. However, profits gained through virtuous knowledge sharing should follow the principle of "socially inclusive wealth creation". This notion, which has been widely discussed in the literature on creativity, refers to extending economic benefits to the widest possible range of individuals, communities and businesses and seeking to enhance the quality of life for all.

Virtuous knowledge sharing is closely connected with the idea of "engagement" (Gibbons 2001, Bjarnason & Coldstream 2003). This paradigm refers to a genuine interchange and two-way communication process, which in the network's view should be an intrinsic aspect of the relations between HEIs and the communities and businesses in their cities or regions.

The network identified students as a major asset for HEIs seeking partnerships with their local communities. Their contribution to the progress and general welfare of society when seeking employment locally upon graduation is an obvious factor. Students, by their very presence in a community, add to its attractiveness and vibrancy; and the presence of a critical mass of young talent will also entail favourable economic consequences in a city or region. Furthermore, all kinds of students' extramural activities (students' clubs, cultural activities, social outreach programmes, business start-ups etc.) can be seen as part of the overall network of virtuous knowledge sharing.

The C*reative cities/regions* network developed a set of questions for higher education institutions interested in exploring how students' involvement in the relations between HEIs and their local communities may be strengthened.

Network finding: **Involving students in (local) partnerships and outreach activities – questions for HEIs:**

- Are students sufficiently independent in their activities; are they self-governing?
- Do students get the necessary support for their activities (organisational, financial) from the university?
- Are the opinions of students concerning a wide spectrum of the university's activities gathered in an organised way, then analysed and taken into account?
- Are students encouraged to prepare their theses on topics of local relevance?
- Are students encouraged to take part in the HEI's external projects? How active is the academic staff in their contribution to outreach activities?

- Is there a feedback mechanism from alumni to the institution concerning the relevance of their education for the local employment market?
- Are there procedures to utilise relations with alumni in an organised way to establish contacts with local institutions, businesses etc.?
- Are students used in an effective way to promote the university among prospective students?
- Do students' cultural and other activities succeed in bringing the university and the city-region's inhabitants closer together?
- Is voluntary service popular among students? How can it be improved? Does it get actively supported by the university?

Although virtual knowledge creation was developed with the local partners of HEIs in mind it seems feasible to extend this model to any kind of external partnerships. The proposed knowledge co-creation through a dialogue between higher education institutions and their external partners with a view towards socially inclusive wealth creation seems a promising way of exploring creative solutions for the many complex issues faced by contemporary society.

This concept transcends the traditional antagonism between the "ivory tower" of academe and the society surrounding it by combining the powers of both for their mutual benefit. In this sense, virtuous knowledge creation transforms the ivory tower into a "watch tower" which is looking out for partners in society. It is important to note that the concept does not propose an integration of the two types of partners; the "disengaged" expertise that can only be developed by keeping a certain distance from the world is one of the major strengths of higher education. Academic freedom and (at least partial) freedom from concerns about practical applicability and funding are after all considered to be major preconditions for the work of creative individuals and groups. Yet the splendid isolation of the academy from the wear and tear of practical concerns needs to be balanced with outreach and engagement in order to overcome its problematic effects – self-reference and isolation - and to set the stage for virtuous knowledge creation.

The *Creative partnerships* network developed a three-step model for establishing partnerships between HEIs and external stakeholders. This model focuses on the organisational process, and not on content, and complements very well the deliberations on virtuous knowledge sharing outlined above.

Network finding: **Three steps leading to mutually beneficial partnerships**

1. Identification of the HEI's own needs and expectations from the partnership

Mutually beneficial partnerships require a great deal of groundwork from the HEI. Therefore, institutions need to be prepared to make a considerable preliminary investment in terms of time and other resources. As a first step, the HEI should try to get a clear picture of its own capacities and boundaries in order to be able to decide which partnerships may or may not be handled successfully. Regular internal mapping exercises may provide support in achieving this goal. Institutions also have to be aware of what they can realistically expect from a partnership.

2. *Communication of these needs and expectations to the partner and identification of the partner's needs and expectations*
   In the majority of European countries, partnerships between higher education institutions and external stakeholders are still fairly new developments. Therefore, many potential partners have probably had very little contact with higher education and consequently are not very well informed about the sector. Institutions should work at overcoming this lack of knowledge about higher education by clearly communicating their strengths and constraints to external partners. Since the lack of knowledge tends to be mutual, HEIs, too, need to make an effort to understand their partners' strengths and constraints.

3. *Finding a common ground for the HEI and the partner which benefits both sides equally – creating a win-win situation*
   A major challenge for HEIs and their partners lies in identifying those areas in which they have some common ground. Sharing a common interest in an area is the foundation for developing cooperation in this field and a precondition for building mutually beneficial partnerships between higher education and external stakeholders.

5.2.2 The gate

The metaphor of the watch tower was extended by the *Creative partnerships* network in its exploration of the "gate".

The gate was seen by this network as an essential feature for the engagement of higher education with the wider world and as such serves a number of functions. It is the place within the HEI which signals an invitation to (potential) external partners to cooperate. It is also the place where partners may address their invitations for cooperation. For these reasons it is of high importance that the gate is clearly visible as the entrance to the institution.

Moreover, depending on the institutional context, the gate could provide the structures for any kind of cooperation between universities and external stakeholders and provide organisational and administrative support for these structures. The precise nature of these structures (one central office for the whole institution, several offices at different levels, e.g. faculties) and the gate's precise tasks are not important as such. It may have the function of a business incubator or technology transfer centre. In other institutional contexts, its primary purpose may be to organise the recruitment of external teaching staff. The essential feature of the gate is its ability to reach out effectively to external stakeholders as well as communicate back to the institution, thus providing the basis for the two-way communication process that is a key aspect of virtuous knowledge sharing.

The doors of a gate may be either open or closed. While the partners in this network clearly underlined that they envisage the doors of the gate to be open most of the time, they also stressed the importance of being able to close it should the institution deem this to be necessary. It was ethical concerns that were foreseen as the major causes for closing the gate to outsiders. While there could be very pragmatic grounds for higher education institutions to reject certain partnerships (e.g. high financial risk), the network envisaged that the most important function of closed doors would be to keep out proposals for partnerships which do not fulfil the basic requirements outlined at the beginning of this chapter (benefiting either education, research or service to society as well as providing mutual advantages to both partners).

The network firmly emphasised that the concern with these values was a particular advantage of any partnerships involving higher education institutions. Values reflect the essence and major strength of higher

education: the quest for knowledge for the sake of knowledge, offering an education that does not only serve the needs of the labour market but also equips graduates with a sound basis for contributing to society in many different ways and provides innovative services to society that build on the institution's expertise in research and education. While HEIs certainly could not afford to lose sight completely of financial issues or aspects such as applicability of research and employability of graduates, there is also general agreement that higher education serves wider societal and cultural goals: and these goals may only be accomplished by respecting the values outlined here. Apart from furthering the ethical dimension of creativity, these values also build a sound basis for ensuring the sustainability and thus ultimately profitability (both in a material and immaterial sense) of partnerships.

This point is also important in political terms. The network reports reflected on the growing unease of higher education institutions with a specific political agenda that has emerged in recent years in some national contexts as well as at the European Union level. This is the implicit or – increasingly – explicit expectation on the part of policymakers that HEIs aggressively pursue funding opportunities from private sources. In many cases this goes hand in hand with a reduction of the public funds for higher education, thus further increasing pressure on the higher education sector to secure alternative funding. Yet even in cases in which university-industry partnerships would provide additional income, this agenda gives reason for concern.

While higher education institutions are committed to diversifying their funding and exploring cooperation with a range of external stakeholders, including private industry, it is important to emphasise project partners' conviction that cooperation must not be pursued at any price. Partnerships that promise only a financial return but do not serve the values and mission of the HEI must be considered unethical; they would ultimately erode the major strengths of higher education and the very characteristics that make the sector such an attractive partner for others. It is for this reason that the gate also needs to function as a filter to keep out partnerships that would not support the ethical dimension of creativity.

Case study: **Use of the gate for the acquisition of projects**

An art school requires advanced students in its Masters programme to complete a real-life project working in teams. These projects are seen as playing a crucial role for the development of professional skills (being part of a multidisciplinary team, applying project management skills and theoretical knowledge) among students. The end-product should be a client-approved, state-of-the-art application or creative artefact or project portfolio.

These projects are acquired from external partners through a gate which exists in each faculty and are then offered to the courses in that faculty. The existence of these offices on the faculty level is considered an important factor for keeping bureaucracy in this process to a minimum. Since these faculty offices are concerned with students' projects only, with a corresponding level of complexity, potential external partners will usually know which faculty they should turn to with their proposals.

The institution has a second gate which acquires complex projects that are either offered to alumni for completion (it can also be the other way round and alumni turn to this office for assistance from the institution) or, should the project require further exploration, are considered for institutional research projects.

Rather than on the faculty level, this second gate is situated on the institutional level to take account of the complexity of these projects and the interdisciplinary approaches that they usually require. Partners who suggest elaborate projects are invited to turn to this second gate. At this gate, the decision is made if a project proposal is further explored through research, if alumni could be invited to complete it or if it is altogether rejected. Both gates will reject proposals when the institution feels that the project benefits neither its education nor its research or social objectives.

5.3 Human potential

The recruitment and selection of students and staff, and staff development and reward schemes are key factors for fostering the human potential for creativity in higher education. In terms of teaching and learning, HEIs should employ a variety of settings and arrangements in which diverse roles are assigned to students and teachers. In all of their internal and external activities HEIs should promote a culture which is tolerant of failure and thus encourages the members of the university community to question established ideas, go beyond conventional knowledge and strive towards originality. The application of lessons learned in the arts to other disciplines can lead to particularly innovative practices in teaching and learning.

Needless to say, creativity is ultimately dependent on the people who make up the higher education community, but structural, ethical and cultural conditions in the institution will be important factors to bring the creative potential of students and staff to fruition. Similarly to many other aspects of creativity, there is a great deal of literature on the development of creativity in the context of human resources which provides valuable insights into the subject matter.

One aspect that could be easily overlooked by scholarly research on creativity but was mentioned by project partners, however, is the effect of a sense of enjoyment and fun. Naturally, this is difficult to quantify, but there is widespread anecdotal evidence from members of the higher education community that both research and teaching and learning processes tremendously profit from playful approaches to problems. This certainly does not imply a lack of seriousness towards the subject matter per se, but it does mean that the work of researchers, teachers and students may profit tremendously from a pleasant and cheerful atmosphere. The content they are working on may be very serious indeed, but chances of success seem to be increasing if it is addressed in a light-hearted manner.

Fun seems to be an almost universal motivating factor and may be of particular importance in higher education, which very often deals with highly complex problems or learning matters. In addition, failure or success may have wide-ranging consequences for the researchers looking for a solution or the learners trying to master an assignment or pass a test. This report cannot offer an explanation why fun seems to play such a particularly important role in this context, but perhaps part of the answer lies in the simple observation that people are good at things they love to be doing. Moreover, it may be speculated that the issues higher education is tackling can easily become overwhelming, precisely because of the burden of their potential consequences. Yet, if people do not allow themselves to be weighed down by the gravity of the subject matter, this may enhance their creative potential and thus foster solutions and mastery of problems. Thus, "funraising" seems to be a promising dimension of education and research to which HEIs should probably be paying more attention in order to strengthen the creativity of their human potential.

5.3.1 Staff

The selection processes in place for both academic and administrative staff at an institution were identified as crucially important for the development of creativity. The very first step in these processes, to attract suitable candidates, can be influenced by institutions in a number of ways (gaining visibility through outreach programmes, public relations and information campaigns, successful utilisation of the gate etc.). Project partners acknowledged that in many European countries the precise nature of staff selection is significantly influenced or sometimes even determined by legislation. Yet even when this is the case and institutions are not able to change or adapt the recruitment process, they usually do have some leeway in influencing the practices employed, which may make a real difference in attracting and recruiting staff with creative potential.

The *Creative HEIs* network pointed out that practicing transparency in recruitment is a basic requirement for establishing trust with potential candidates, and institutions have several options to design their practices in such a way that this requirement is fulfilled. It is recommended to keep the whole selection process as open and transparent as possible - from advertising a post to the hiring decision - to ensure that all candidates are not only treated fairly but are also aware that this is a matter of policy and commitment.

It is difficult to make concrete recommendations on the process as such given the various constraints many HEIs across Europe face in recruitment. Yet project partners felt it was important to raise awareness for this particular issue both within institutions as well as among governments. Unfair and non-transparent selection processes or "inbreeding" in hiring are simply incompatible with identifying the most suitable and qualified candidates and hence will seriously hinder creativity in the institution concerned. Such practices tend to result in a "domino effect" on many levels, which may lead to disastrous consequences for the institution or even, when they are common practice nationally, for the whole sector (lack of interest on the part of qualified candidates to apply, overall negative effects on the quality of teaching and research etc.).

In the specific context of academic recruitment, the report by the *Creative HEIs* network mentioned the composition of appointment commissions as a cornerstone for the successful identification of suitable candidates with creative potential. One project partner, for instance, incorporated the requirement for an external member with voting rights in appointment commissions into its recruitment process. The diversity of experiences and expertise that is thus created within the commissions gives them a better chance to consider candidates' strengths and weaknesses from more angles than would most likely be possible for commissions that are exclusively composed of internal members.

But attempting to recruit the most suitable candidates alone will not be sufficient for fostering creativity; HEIs will also need to fine-tune those institutional parameters that support a culture of creativity. According to the *Creative HEIs* network, these include allocation of resources (time and financial), rejecting uniformity

and encouraging diversity as well as tolerance for, and even encouragement of, failure as preconditions for both individual and collective creativity.

Staff development and reward schemes were another important factor mentioned by the network in this context. These serve as incentives for staff to work effectively and efficiently and they play a central role for the development of a relationship based on mutual trust and loyalty between the HEI and its employees. Stable and secure relations between employer and employees are prerequisites for the risk-taking culture that has been found to influence creativity favourably. Creativity requires that both administrative and academic staff members have some leeway to experiment how they address their work and the problems they encounter. If failure does not present a threat to employees, but is met with understanding or even – within certain limits – encouragement by the institution, this will be one factor favouring creativity on various levels of the HEI.

Higher education institutions cannot – and should not - avoid utilising modern management tools in the field of human resources. But they should pay attention to the unwanted effects such tools may have on the composition of their staff, in particular the academic staff. Their responsibilities in scholarship and research require a high degree of concentration, dedication and in some cases personal sacrifice. Furthermore, these tasks are very often not linear processes, but demand a great deal of patience and commitment – sometimes for years - before results materialise.

The staff members who deal most successfully with these challenges are sometimes highly idiosyncratic individuals who may appear "eccentric" to outsiders. The "eccentric professor" who is a brilliant scholar, but may not be much concerned with publication records or conference presentations and does not care about the traditional attributes of scholarly fame is, of course, a cliché. There are, however, highly creative individuals who contribute enormously to the advancement of knowledge as individuals and in groups precisely through their idiosyncratic approaches, yet were their performance to be measured using conventional indicators they might not be rated highly. Higher education would do well to acknowledge the contributions of these individuals and provide them with the appropriate conditions to flourish. "Eccentric professors" may turn out to be one important competitive advantage for European higher education in pursuing creativity and innovation.

5.3.2 Students

Just like staff recruitment influences creativity, so do selection processes for students. Again in this area there are many different traditions and legal requirements across different disciplines and national contexts. Art schools tend to be highly selective institutions everywhere and almost all countries have admission procedures for medical or other health related studies. But in the majority of disciplines there is a high diversity of admission requirements across Europe, with some countries allowing everyone with a secondary school diploma "open access" to higher education, whereas others employ strict admission procedures.

Because of the wide variety in student admission, project partners restricted themselves to pointing out the significance of selection processes to those institutions which employ them. As we have noted earlier, these processes may either foster creativity by promoting diversity or hinder them when they result in a uniform student body.

The *Creative learners* network identified the introduction and orientation phase for new students as a critical stage with high relevance for creativity and which applies to all higher education institutions. While the diversity of students is an important precondition per se for fostering creativity, it also presents a challenge for the institution. Students, in most cases, enter higher education with very diverse levels of preparation in terms of education, personal maturity, independence and widely differing expectations.

Therefore, new students are also differently prepared for the respective roles of students and teachers in higher education. While these roles tend to be fairly fixed in other educational environments, they are - and should be - variable in higher education. As the network report points out, in some instances the teacher will play the traditional role of organiser and provider of knowledge; in other instances the teacher's role will be that of facilitator, instructor or mediator, and the learners will take on the roles of researchers and organisers of their own and others' learning processes.

It is crucial that the institution provides the right settings during the introduction and orientation phase in order to encourage and engage students and provide opportunities for practising these different roles, which are essential for developing co-ownership of the teaching and learning process. In addition, collaborative and social competences may be fostered in the orientation phase by providing certain settings for student housing.

Case study: **Orientation of new students**

The introduction to the university is arranged by about a hundred advanced students who function as instructors and tutors to first-year students. The tutors prepare this introduction by cooperating across faculties during the summer holiday. The introduction programme consists of an array of activities including academic classes, practical and technical aspects (use of the library, computer lab etc.), a lot of fun and parties and also a residential session somewhere away from the university.

The orientation period is as important to the older students who arrange it as it is to the new students being introduced. It gives the older students a chance to present the university in the way they think it should be seen and it also provides them with an opportunity for reflecting on their own education and the experiences they have gained so far. The process results in a sense of ownership of the university on the part of the tutors, and this feeling is both consciously and unconsciously communicated to the new students.

In terms of the teaching and learning process the network recommended the employment of a variety of settings and arrangements to transcend the traditional approach of one-way teaching, passive listening and strictly hierarchical relations and thus to encourage and develop creativity. The network suggested that the various settings be viewed as a continuum, on which the traditional teacher-centred approach is situated at one end and at the other we find a learning process that is solely determined by the students' interests and previous experience.

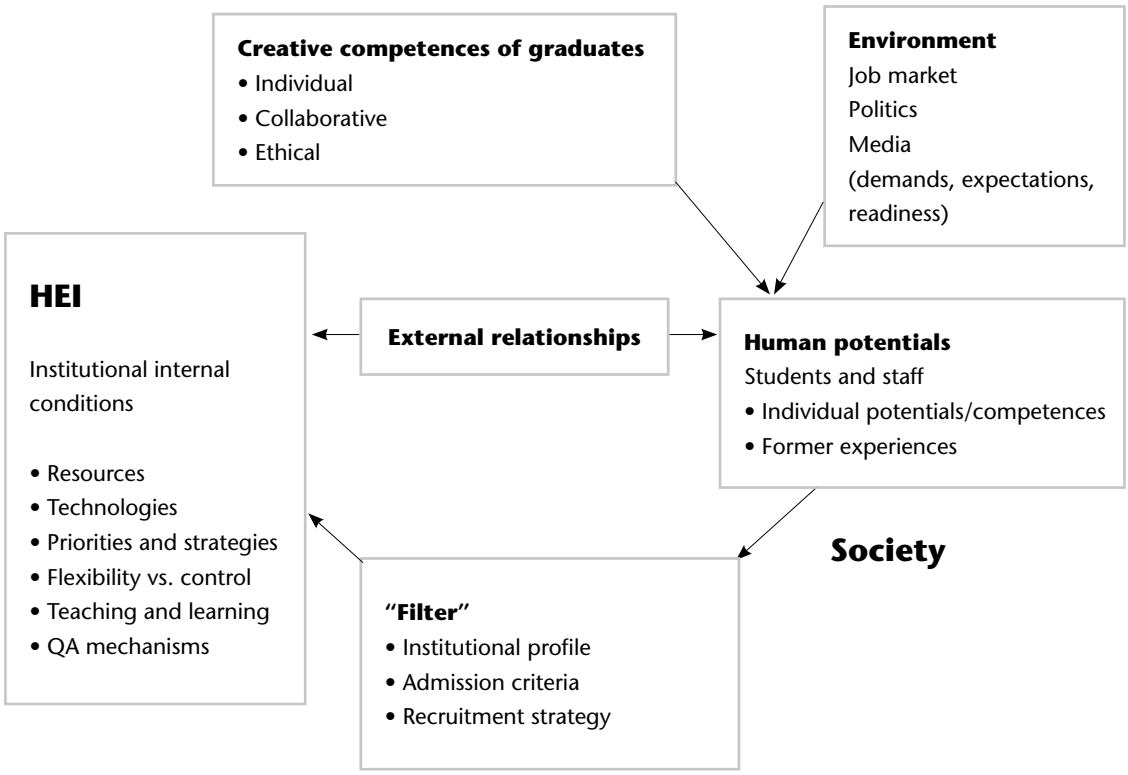
In most cases, the learning processes employed will be somewhere in between these two poles. The report lists a number of innovative examples for these:

- Discussion class, colloquium or theme seminar: the teacher provides input on content and facilitates the discussions in class; the students choose the actual topic from a list provided by the teacher.
- Study circle: students and teachers with a common interest in a certain issue jointly establish a study circle for exploring the subject further. This arrangement may also be used for arranging seminars or inviting guest lecturers.
- Workshop: this setting is envisaged as "learning by doing"; it provides a forum for techniques such as role play, experimentation or improvisation. It requires a high level of active participation and sense of ownership from both students and teachers.
- Debate cafés: these are structured occasions to meet and socialise and discuss topical concerns.

Project partners also raised the question of actively engaging undergraduate students in research. This would expose students to the kind of questions addressed by scholars in their field and thus assist them in grasping the foundations of their subject, but it may also be advantageous for a specific research project. Projects involving mainly undergraduates would generally be narrowly defined and would be much smaller in scale than "regular" research activities. Failure in such a project would consequently entail few risks for the students and staff involved thus fostering a risk-taking atmosphere.

The *Creative learners* network devised a flowchart of the external and internal influences on the outcomes of learning processes geared towards fostering creativity in graduates (i.e. what the network called the creative competences of graduates). This chart includes even those external conditions that may not be influenced by institutions, because the network felt it important to raise awareness for all these influences, to encourage HEIs to analyse them and, based on this analysis, to address those factors which lie within their control accordingly.

Figure 2: Flowchart of learning processes



A noteworthy element of creativity which was addressed by all four networks in one way or another is the application of lessons learned in the arts to other disciplines. Specifically, the *Creative partnerships* network explored the "translation" of improvisation from music and drama to other learning contexts.

As the network report explains, there is a growing body of theoretical writing about improvisation based on practitioners' experiences in teaching and practising improvisation. Certain key concepts have emerged which provide a common ground for analysing and promoting good improvisational practice.

First, the notion that improvisation is a natural activity practised by all human beings in response to unexpected and changing situations. What is special about improvisation in the aesthetic domain is the existence of constraints which arise from the formal and generic parameters within which artists work.

Second, and following from this observation, comes the idea that improvisation takes place at a simultaneous meeting point of several complementary elements in real time: planned structure (conscious and unconscious pre-learned knowledge), and spontaneity (immediate creative application); natural, inborn schemes and learned schemes as well as directionality in time and emotional communication.

The third factor concerns the knowledge base that improvisers draw on for their performance and that is built up by learning, practice and experience. Along with the growing momentum of change throughout professional and commercial contexts, improvisation has become valued in demonstrating the ability to respond effectively to new and unpredictable situations.

Case study: **Utilisation of improvisation in management and health care**

Managers who play music as a hobby are invited to a session or two of chamber music improvisation in which a combination of work on spontaneity and risk-taking within structure and discipline takes place. The degree of instrumental proficiency matters very little, as the degree of difficulty can be adapted easily to the needs of participants. Members of the group are invited to coach their peers, not only musically but also in areas of real-time decision-making.

Improvisation can also assist managers to understand and relate to the emotional content of what is being said: the "how" (intonation in speech, which is a form of pure music) within the "what" (the actual words uttered). Improvisatory workshops bring to the conscious level the musical line within the speech – usually improvised – and its emotional meaning. This is especially useful when there is a conflict between what is said and how it is said.

The lessons of this approach are also being extended to other professional spheres, such as nursing and health care. Improvisation is an intrinsic part of nursing practice and derives from the interaction between nurses, patients, their families, fellow professionals and carers.

The development of clinical guidelines and protocols to "script" practice for the treatment of clinical conditions, may, on the surface, appear to be prescriptive and remove the creative element from care.

It can be argued that, even where a template for action is in place (which inevitably generates medico-legal anxieties), this oversimplifies the process. Rather than reducing complexity in decision-making, guidelines tend to move that complexity into the arena of improvisation. Guidelines require interpretation in an iterative process of interaction with the actors and audience at all stages in the implementation process.

Drawing the analogy with music and drama above, although the guidelines represent the "score" and "script", implementing care in practice requires interpretive adjustments and finely tuned judgements in order to perform care with authority and acumen.

Nursing, in this account, is a form of performance art, requiring acting skills, which can be role modelled and rehearsed in clinical laboratory facilities but which ultimately rely upon improvisation for implementation in any given context.

5.4 Future orientation

Many practices at higher education institutions, e.g. funding mechanisms or quality processes, are based on indicators of past performance. Higher education institutions and external stakeholders need to be made aware of the potentially limiting effects of these practices in the context of the creativity agenda. HEIs should strive towards a future orientation by employing a proactive attitude, i.e. to seek actively to influence future developments, rather than be grounded in the past or simply react to external pressures.

Many processes and practices of central concern to higher education institutions tend to be oriented towards the past rather than the future. These include, to name but a few, the traditional ways of addressing the employability of graduates, the methodologies used to assess research proposals and many of the quality assurance mechanisms currently in use. The conventional method of choice in these instances has been to base funding decisions or judgements on past activities, which can, in turn, seriously hinder higher education institutions in realising their creative potential, as project partners pointed out.

For example, HEIs frequently face considerable pressure from governments, businesses and the general public to establish study programmes in fields in which a current shortage of graduates is perceived, thus basing the decision, not on the future (which fields of employment may be sought after in the years ahead), but on the past. Yet what would have been innovative some time ago and is now at its most relevant will most likely be past its prime soon. Given the considerable lead time involved, by the time students graduate from programmes created on the basis of present labour market needs, these fields of employment will probably no longer be relevant or will have developed in such a way that the original prognosis for needed human resources no longer holds true.

Similarly, in the review of research proposals, there is a predisposition to stress work that has already been achieved, rather than what may lie ahead in the future, e.g. by requiring applicants to state the expected outcomes of a project at the time of application. Given the unpredictability of major research breakthroughs, a requirement such as this seems an almost certain recipe for hindering creative scholarship. In order to fulfil this criterion the project in question cannot be very innovative in its outlook, but will most likely be limited to what is already known. In contrast, orientation towards the future requires dealing with the uncertainty and risk of failure that is intrinsic in any activity which aims to go beyond established knowledge or ideas.

A third example mentioned by project partners concerned quality assurance mechanisms. In this context, too, processes have a tendency to focus on information about the past. For instance, many evaluation methodologies emphasise the collection and interpretation of data on certain indicators, which, by definition, will be based on past performance. While it goes without saying that awareness of key data is an indispensable aspect of quality culture in higher education, it must not be forgotten, when analysing this information, that it is about the past and that it is not always possible to draw conclusions from the past about the future.

The partners in the Creativity Project realised that no easy solution is available to the problems outlined in these three examples. There is no crystal ball available to the higher education sector, which would tell us about the future. Because of this, strategic decisions or evaluations will always be based at least partially on past performance. Furthermore, few HEIs will be able to ignore completely public or political pressure in areas involving questions of funding or accountability.

However, the network reports emphasise the importance of raising awareness about the limitations of practices which build on the past in the context of the creativity agenda. In order to overcome these constraints, higher education and its partners in governments and quality assurance agencies will have to devise methodologies that balance information on what was with an orientation towards what will be.

One way of doing so was explored by the *Creative partnerships* network, which called attention to what it referred to as a "proactive attitude." By this the network meant that HEIs should seek actively to influence spheres which are of great relevance to them, yet are generally considered to be beyond their control.

The network focused its deliberations on employment and questioned the perceived constraints of higher education by maintaining that the sector has more opportunities for affecting its graduates' future employment options than is commonly thought. Innovations developed by higher education institutions should be viewed not just in relation to their scholarly and financial potential, but also for their prospects in creating new employment opportunities for graduates. One network partner, for instance, successfully applied this notion to the field of serious games, i.e. computer or video games that are developed for non-entertainment purposes. The institution chose this particular field as a research focus in which researchers and students from different disciplines (computer science, web design, pedagogy, specific subjects concerned etc.) cooperate in the development of such games. Through its transdisciplinary approach the HEI succeeded in significantly contributing to the development of these games, thus increasing their market potential and ultimately creating employment opportunities for graduates that had not existed before.

The network therefore recommended that higher education institutions should strive towards exploring new professional fields for the employment of their graduates, rather than just responding to external demands. The realisation of the proactive element requires a great deal of creativity on the part of the institution, in terms of the quality of its teaching and scholarship as well as its ability to apply these towards influencing graduates' employment.

Both the reports produced by the networks on *Creative regions/cities* and on *Creative partnerships* underlined the conviction that cooperation with external partners may significantly assist the future orientation of higher education institutions, both in terms of education and research. As one network put it, partnerships "may not only provide valuable new perspectives on known scientific theories, but may even help to identify new scientific questions or problems." Exposure to ideas and concepts developed outside the sphere of higher education and the resulting diversity may prove a very fruitful climate for developing forward-looking approaches within HEIs.

Interestingly, both of these networks evoked the notion of the Renaissance in describing the future orientation of the creativity agenda. Both maintained that this was by no means intended as a nostalgic concept, but was meant to describe a novel approach to tackling the many challenges that lie ahead for higher education.

As the examples mentioned in this chapter illustrate, success in fostering the future orientation of creativity is not solely dependent on higher education, but will be significantly influenced by factors outside the reach of the sector such as funding or external quality assurance mechanisms. Yet, HEIs still need to be aware of these factors and analyse how they influence their own processes in order to initiate internal changes. These internal changes will then need to be complemented with political lobbying to governments and other external stakeholders to raise awareness for the potentially problematic effects of backward-oriented processes on creativity and innovation.

5.5 Quality processes

Quality mechanisms set boundaries and indicate what is appreciated and valued in higher education and what is not. They reflect value systems, which have to be monitored to ensure that they mirror the institution's ethical and strategic choices. Quality processes have the potential to strengthen creativity and innovation if they are geared towards enhancement and focus on the capacity to change as a way to incorporate a future dimension. However, they can also have highly detrimental effects if they stress conformity over risk-taking, are oriented towards the past rather than the future and develop into burdensome bureaucracies.

In the past ten years, a consensus has emerged in the European higher education community on the significance of quality processes both for internal development as well as external accountability. The *Creative learners* network characterised quality processes as setting boundaries and indicating what is appreciated and valued about an institution and what is not, thus reflecting ideals and preferences. Therefore, these mechanisms need to be closely monitored to ensure that they mirror the institution's ethical and strategic choices.

Although quality methodology has developed considerably since its early beginnings, the fact remains that many of the processes used today come at a price: they may actually hinder creativity in higher education by their tendency to stress conformity over risk-taking, to be backward-oriented rather than forward-looking, and there is the danger of over-bureaucratisation, which is intrinsic in these systems.

The network reports for this project very clearly reflect the unease which many partners felt with quality processes in this context.

The *Creative partnerships* network explicitly commented on the "Janus-faced nature of quality assurance" and further elaborated that "quality assurance processes, like any kind of bureaucracy, may present a threat to creativity and innovation within higher education institutions." However, the same report also underlined that quality processes are by no means incompatible per se with creativity if they are carefully designed to overcome the shortcomings outlined above. Rather than be seen as a necessary evil, well-designed quality processes may actually enhance and support the creativity agenda by assisting the institution in learning about itself and informing external partners about the institution.

The *Creative cities/regions* network pointed to research which indicates that "the expectation of threatening, highly critical evaluations undermines creativity." In contrast, the literature also suggests that monitoring, evaluation and support when geared towards improvement can enhance the intrinsic motivation in individuals that is considered to be highly favourable to creativity.

The *Creative cities/regions* and *Creative learners* networks recommended that quality mechanisms should be viewed as opportunities for enhancement and development, rather than "assurance". This approach is meant to go beyond the mere level of vocabulary to imply that quality systems in higher education should not be caught up in the past or present, but should embed a future orientation. One way of doing this would be to replace processes which only entail an "entry ticket or a standard reached" with formative evaluations which constantly challenge institutions to "do a fuller, more creative and better job". Focussing on the capacity to change, rather than on data about past performance, would be another way to incorporate a future dimension into quality processes. These recommendations in turn imply the conviction expressed by both networks that quality must be viewed as a developmental process by institutions and their external stakeholders, and not a finite procedure.

The *Creative learners* network made some specific recommendations about quality processes: both internal as well as external quality processes must support the creativity agenda by finding the right balance between:

Contributing to the development of new and improved procedures	><	Not neglecting existing best practices
Offering a system that is transparent and comparable	><	Allowing flexibility and variation in order to promote innovation and development
Clarity in regards to what is being measured and what is the overall goal	><	Not promoting a "threshold-culture", where it is enough just to satisfy "minimum demands"

One partner in the *Creative cities/regions* network developed a tool for benchmarking the outreach activities of HEIs as a specific quality process:

Case study: **Benchmarking partnerships**

One institution initiated a joint project with several other HEIs on the national and European level to benchmark their external partnerships for the purpose of enhancing and developing their activities in this area. Moreover, the university intends to use the benchmarking tool for the strategic planning and steering of external partnerships. The project objective is to develop a tool and a methodology for evaluation and self-evaluation of an institution's outreach activities.

The tool is based on the notion that academic outreach and enterprise requires special skills in order to have a sustainable impact. The main focus is on the development of appropriate team capabilities. To do this, a series of key questions is asked to enable a team to assess and develop its capabilities with regard to cooperation between HEIs and their external partners. These capabilities are: foresight enabling skills, focussed individual performance, social networking intelligence and academic business acumen. The tool gives step-by-step support in successfully setting up a new project and advises on the development of key skills in the project team.

The qualitative results of this tool are complemented by quantitative indicators the university collects on its outreach activities and which focus on data on technology transfer.

The project partners' comments on this topic reflect important insights on quality processes and their potential assets as well as drawbacks, e.g. quality mechanisms that are geared towards enhancement as a means of future orientation are preferable to approaches which are perceived as control tools and focus exclusively on the past. However, the findings on this subject also clearly illustrate that much still remains to be done in order to investigate further the relationship between creativity and quality systems.

5.6 Higher education institutions as learning organisations

Higher education institutions should explore the concept of a learning organisation in their approaches to governance and management, i.e. an organisation in which all members seek to reach common goals through collective and individual learning. However, as important as structural elements are, they should be complemented with ethical and cultural concerns in order to create an institutional milieu favourable to creativity. The institutional leadership should embrace its overall responsibility and balance top-down management with delegating specific decisions to staff and students as appropriate to ensure wide ownership for change processes within the university community.

The core characteristics of creativity imply that institutions interested in fostering these traits should be prepared to deal with change and the resulting insecurities. Innovative solutions in teaching and learning, research and services which are appropriate to the task at hand and are oriented towards the future call for institutional mechanisms and structures that are able to adapt to changing parameters.

Thus, rather than viewing themselves as being "set in stone", higher education institutions should strive towards becoming "living organisms", which can learn from past successes and mistakes and apply their institutional creativity to a constantly changing environment.

We noted above that the quest for originality and going beyond established ideas in higher education requires students and staff to deal with a great deal of insecurity and the risk of failure. These traits can only flourish within a framework that provides security and stability (so that risks do not entail threats to the individual). At the same time, however, HEIs need to be sufficiently flexible to adapt to social changes and, crucially, to go one step further and seek to influence society through knowledge creation.

The *Creative HEIs*, *Creative cities/regions* and *Creative partnerships* networks identified the concept of a "learning organisation" as one promising means for universities to address the challenges implied by change processes, both in terms of reacting to them as well as influencing or even initiating them. This term refers to a concept developed in the business sphere. There exists a vast body of literature on the subject, and its main characteristics can be summarised as organisations in which all members seek to reach common objectives by expanding their knowledge, both individually as well as collectively. Learning to see the whole together is the overall goal. Such organisations deal with external changes by continually changing themselves. There are also indications in the literature that it is not possible to become a learning organisation through training individuals and setting up certain structures alone. Rather, these organisations build upon a common institutional culture, which is brought about through shared values and principles.

Given this framework, it does not come as a surprise that the concept of a learning organisation rang true with the partners in the Creativity Project. Many of the findings that have been outlined in the previous chapters indicate that in order to be innovative organisations, higher education institutions themselves need to incorporate some of the core characteristics of creativity. Moreover, the findings on the ethical dimension of creativity and the human potential in particular make it highly plausible that structures and processes alone will not do, but must be complemented with cultural elements at the institutional level in order to implement the creativity agenda.

The *Creative HEIs* network observed that the motivation for restructuring HEIs can be either brought about by external or internal factors; in both cases these may be either viewed as crises or opportunities. When institutions embark on restructuring – for whatever reason – they need to be aware that this may have destructive effects, if the rationale for changes is not clearly communicated throughout the institution. Internal communication and information therefore is the first step in any change process.

As to the actual implementation of changes, both structural as well as cultural, the *Creative HEIs* and the *Creative cities/regions* networks suggested combining a managerial with a bottom-up approach. Such a process will need to be initiated and accompanied throughout by the institutional leadership. Furthermore, the leadership will have to take responsibility for planning and strategy, researching data and other information and, crucially, motivating all involved. Yet in order to achieve the acceptance of new structures, the academic and the administrative staff as well as the students concerned must be partners of the leadership in the implementation process. It will not be sufficient to merely consult those most directly concerned with structural changes, but they will have to be invited to play an active part in the implementation and also accept responsibility for certain steps in the process, although the overall responsibility has to remain with the institutional leadership.

Case study: **Creation of research clusters**

A multi-faculty university in which research was traditionally linked to individual departments restructured its research activities into clusters, designed to exist in parallel to the traditional departments. The new research clusters have been organised as centres for collaborative research hosting transdisciplinarity groups of scholars. The researchers working in these clusters are either affiliated with different departments in the university or with external partners.

The transformation into the cluster structure was managed by employing a combination of a top-down with a bottom-up approach. The university leadership commenced the change process by establishing a central office for gathering information on which research initiatives conducted in different departments would fit together in terms of content. It then invited academic staff from across departments to check this information for accuracy and further refine the focus of the new clusters, or suggest clusters of their own. Thus, the human potential was actively involved in defining the content the clusters would focus on.

Based on this information the first set of clusters was created and is being managed by the central office. This central office also collects applications from staff on new clusters, hence forming part of a built-in mechanism for the constant development of the concept. New clusters are considered based on the quality of the application and if they are in line with the university's research strategy. The centre also supports and coordinates exchange between the different research clusters.

These findings on the implementation of change strongly suggest that the institutional leadership has a central role to play in managing change processes and – ultimately – transforming HEIs into learning organisations. In addition to taking overall responsibility and motivating staff, for instance by offering incentives, leadership is particularly important for providing, in the words of the *Creative cities/regions* network, "consistency of vision and commitment." In line with the concept of virtuous knowledge-sharing, this network also stressed that HEIs which have already achieved a high level of institutional creativity should share their expertise by networking and partnering with other universities. This would also assist these HEIs with critical reflection of their achievements.

The *Creative HEIs* network underlined the significance of time as a factor in the successful management of change. It is important to identify the "right time" for initiating change processes, and they need to be given a sufficient amount of time for their implementation. This is particularly important when the impetus for change comes from external stakeholders. If the implementation of new parameters defined by e.g. governments (indicators for funding, accountability measures etc.) is not allocated enough time, the whole project may fail.

The network discussed the pace of change in universities, which at times has been criticised as too slow by external stakeholders. While HEIs may indeed be slower to transform than other organisations, a measured and reflective approach to management and governance is not problematic per se, but actually can support sustainability and foster creativity by providing stability. Yet, these traits need to be balanced with proactive and future-oriented approaches. The way European universities have responded so far to the Bologna and Lisbon processes suggests that universities are very much aware of this need and are also capable of implementing significant changes within a reasonable time, provided this is supported accordingly by the frameworks within which they operate.

Thus, external stakeholders in particular need to be aware of the deliberate pace in higher education when planning and implementing changes. Institutional experience suggests that creativity may benefit from purposeful and unhurried approaches if an appropriate mix of stability and flexibility in terms of institutional structures and cultures is achieved.

6. TEN KEY RECOMMENDATIONS

The following ten recommendations focus on European higher education institutions as the main actors for fostering creativity in the higher education context. They are complemented with recommendations relevant to governments, quality assurance agencies and other external partners and which are derived from institutional experiences and the literature on creativity.

Higher education institutions

1. Striving towards a creative mix of individual talents and experiences among students and staff, providing common fora for researchers from different disciplines and offering diverse learning experiences will likely result in conditions favourable to the creativity of the higher education community. Structured exchanges between the arts and other disciplines can be particularly fruitful.

2. Diversity within institutions should be complemented with engagement, outreach activities and cooperation on the local level and beyond. Relations with external partners expose the academy to expertise not found within its walls and prevent isolation and self-reference. Cooperation between HEIs and external partners should follow the model of virtuous knowledge creation by aiming towards co-creation of knowledge through a two-way communication process to the mutual benefit of both partners.

3. Any activity of HEIs has to stand the test of whether it fosters the public mission of the institution in terms of teaching and learning, research or service to society. If it does not fulfil these basic ethical requirements, the activity should not be undertaken. Any profits generated by HEIs should be geared towards socially inclusive wealth creation.

4. Universities should look towards the future in all their activities, rather than being grounded in the past. The high level of expertise of the university community in diverse fields uniquely qualifies HEIs to strive towards "being one step ahead" of the times by going beyond established knowledge, questioning time-honoured ideas and trying not only to solve current problems but also be proactive in identifying issues of future relevance. In keeping with this forward-looking orientation, HEIs should work towards developing internal quality processes that support the creativity agenda by being geared towards the future and avoid over-bureaucratisation.

5. It is recommended that HEIs explore the concept of a learning organisation for their management and governance structures. As important as these structural elements are, they must be complemented with ethical and cultural concerns in order to create an institutional milieu favourable to creativity.

6. Students and staff need to be provided with institutional structures and cultures that aim at balancing stability with flexibility. The human potential of the university should be provided with the safeguards necessary to encourage risk-taking. At the same time, students and staff should be prepared to contribute towards shaping future developments and be ready to address the insecurity and uncertainty this entails.

7. The institutional leadership should embrace its overall responsibility and balance top-down management with delegating specific decisions to staff and students, as appropriate, in order to ensure a wide ownership of change processes within the university community.

Governments

8. Legal frameworks, funding mechanisms and policy priorities on the local/regional, national and European levels may exert considerable influence on creativity within the higher education sector. Governments need to be aware of their role in advancing the creativity agenda and the responsibilities this entails. Higher education institutions must be provided with the financial and academic autonomy necessary for acting on the recommendations outlined in this report. Governments should provide the necessary frameworks and support to enable HEIs to base their activities on their values and missions. Specifically, governments should refrain from pressuring institutions to generate profits at any price. In parallel, governments should assess the degree to which the legal frameworks encourage entrepreneurship in the private sector and encourage banking and other financial institutions to support the creativity agenda of higher education.

Quality assurance agencies

9. Quality assurance agencies should be aware of the potentially detrimental effects of external quality mechanisms if they stress conformity over risk-taking, are oriented towards the past rather than the future and develop into burdensome bureaucracies. QA agencies are invited to explore jointly with higher education institutions how external quality mechanisms may strengthen creativity. The ultimate objective would be the development of quality systems which foster the creativity agenda. This means placing enhancement and an institution's capacity to change at the heart of the evaluation process.

External partners

10. Higher education and other sectors of society have long existed in separate spheres. Consequently, there is a mutual lack of knowledge. Awareness on both sides of this shortcoming is the first step towards appropriately addressing this constraint and overcoming it. External partners are invited to cooperate with higher education institutions on matters of common interest, leading to mutual benefits and in keeping with academic values and missions.

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8 ANNEXES

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