International curricula and student mobility

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EXECUTIVE SUMMARY

Research-intensive universities maintain dense networks of international research links over all disciplines. They are inherently international in their outlook and approach to academic work, as evidenced in their recruitment of students, researchers and academics. In addition, there is increasing internationalisation at undergraduate level. In the recent past, LERU has argued already that research collaboration in general should and could be exploited better **to articulate international educational collaborations and intensify student mobility** to achieve excellence in education[1].

In this advice paper, LERU sets out how this can be realised, through the development of different, more diverse, forms of student mobility. The paper offers a detailed description of these forms, compares them and provides recommendations to both policy makers – national and European – and to universities.
The mobility schemes investigated can be divided into three models:

- **Exchange mobility:** Students themselves choose to have an experience abroad for a short or longer period of time, at a host institution, according to an individual mobility arrangement between the host and the home institution. The prototypical example here is mobility as funded by the Erasmus programme.

- **Networked mobility and curricula**: One university, a faculty, department or a specific university programme forms a network with several partners. The 'centre or demanding university' sends its students for a certain period of time to one or more partner institutions, to follow (part of) their curriculum abroad.

- **Embedded mobility and curricula**: A limited number of partners (faculties, departments, programmes) engage in a consortium (e.g. 'ring-shaped'), in which students then 'rotate' and follow parts of their educational trajectory subsequently in two or more partner institutions, while students of those partner institutions do the same. The curriculum is fully synchronised.

'Networked' and 'embedded' mobility are referred to as 'structured' as they obviously require and provide more structure in their implementation.

The ideas of this paper blend in well with the proposal of the European Commission for the **Erasmus for All** programme for 2014-2020, analysed in the first chapter of this paper.. At the European policy level, the new programme 2014-2020 will support not only individual mobility as in the old Erasmus scheme, but also strategic collaborations between university programmes, in order to create better opportunities and a better learning experience for students. LERU very much welcomes this as it is clear that the current Erasmus programme has reached its limits.

A second part of the paper provides a detailed investigation of the three different types of student mobility. Next to a desciption of the model, its objectives, the participation of students, the impact on the curriculum, its quality and its business and management model are analysed.

After this thorough analysis, different qualitative features of the mobility schemes are compared in a comparative table.

In a fourth part of the paper the newer, more structured parts of student mobility are investigated. The opportunities and benefits it creates for students, for staff members involved and for institutions as a whole, are set out. Next to this, logistical benefits, challenges and management aspects are elaborated on.

In the final part of the paper LERU makes a number of recommendations aimed at policy makers and institutions. The first recommendations are directed at the European level, in particular at "Erasmus for all", which LERU supports as the programme is designed in such a way that it can give a new impuls to the current Erasmus programme and support new, more integrated forms of mobility as well. LERU believes it is key that Erasmus for all is not only flexible in how it is designed, but can also be flexible during its implementation, when new challenges or ideas occur.

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1   Geoffrey Boulton and Colin Lucas, *What are universities for?*, LERU Position Paper, September 2008.

To guarantee the viability of more integrated forms of mobility, but also to support universities that are now burdended severely with administrative duties linked to the current Erasmus programme, LERU pleads for the attribution of a substantial overhead cost in the relevant parts of Erasmus for all and for additional funding of the administrative and logistical support for institutions participating in European mobility programmes.

LERU also calls upon national (or regional) governments to support the improvement and optimization of university curricula through international collaboration and mobility by removing existing barriers that hamper mobility of students.

However, not only policy makers, but also higher education institutions should implement changes. LERU believes that on the long run, curriculum collaboration and mobility should become part of the international policies and strategies of a university, leading to excellence. The institution's policy on mobility should also allow more diversity in mobility schemes.

More flexibility is necessary as the design and purpose of mobility schemes can differ depending on the type of student, discipline or specialisation involved. This should also entail making a wider range of mobility options available in the classical exchange moblity, in particular including mobility for short periods, mobility in intermittent stages or internships.

LERU is strongly convinced that more integrated mobility schemes are an important step towards the modernisation of Europe's higher education institutions and therefore encourages European universities, in particular the LERU members, to consider organising and engaging in such mobility schemes.

Introduction - Why international mobility matters

1. In research-intensive universities, high-quality teaching is immersed in an environment of internationally competitive research. At these universities, research, education and service to society interact intensively and reinforce each other. Through research, new knowledge is generated, which is the ultimate source of innovation in society. Through teaching, knowledge is disseminated and young people are intensively trained to be aware of the frontiers of human understanding[2].

2. Never before was knowledge so easily transferred, just by a click of the mouse, from one side of the globe to the other. Nevertheless there is an increasing need for researchers to interact, not only virtually via the internet and social media, but also physically, in one-to-one bilateral contacts, at scientific workshops and conferences and at dedicated summer schools. This truly global character of science is yet another manifestation of the fact that mobility has become an essential feature in many dimensions of modern life, not only in science and technology, but also in business, in culture and in leisure.

3. In particular, **mobility of students, teachers and researchers has become an essential driver of innovation and creativity**, and the quality of research at European universities will increasingly depend on the **professionalisation of their international recruitment** and selection efforts on the international talent markets.

4. Similarly, those institutions that are **open to international students and researchers** will experience how this confrontation with 'diversity of viewpoints', enriches scientific discussions and developments, improves the effectiveness of discovery processes, and positively influences decision-making amongst the university leadership.

5. In short, it is clear that mobility plays an increasingly crucial role in science, technology, industry, business, politics, culture and all possible dimensions of a global society. Taking into account the university's responsibility towards society for training students that are aware of the challenges and opportunities of mobility, LERU recognises that the current educational programmes at European universities are often not sufficiently well developed to provide each student with such awareness.

6. But increased mobility of students, researchers and staff also matters from a more 'educational' and 'cultural' point of view: the development of intercultural competencies, enabling students to embrace differences without feeling threatened in their own cultural identity, the opportunities to learn to master adequate attitudes and skills to function optimally in a globalised world.

7. In the recent past, LERU has argued already that research collaboration in general should and could be exploited better **to articulate international educational collaborations and intensify student mobility** to achieve excellence in education[3].

8. This blends well into recent trends in internationalisation policy of Higher Education Institutions, as elaborated on in a 2012 issue of the International Focus Newsletter of the UK HE International Unit[4]. It is found that more often, institutions group themselves in **international consortia and networks** that offer new and sustainable ways of harnessing international opportunities. Besides research collaborations, increasingly, teaching and curriculum collaborations are set up across partner universities. As a matter of fact, the international strategy of many higher education institutions is currently being revised to benefit from these international consortia and networks.

9. In this paper, LERU launches the notion of **'structured mobility and curricula'** as opposed to 'Exchange Mobility' (of which the successful Erasmus programme is a prominent example). Structured mobility can take on two forms:
   • Networked mobility and curricula: One univer-

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2   See: www.leru.org

3   Geoffrey Boulton and Colin Lucas, *What are universities for?*, LERU Position Paper, September 2008, downloadable at www.leru.org.

4   International Focus Newsletter of the UK HE International Unit, Issue 82, July 2012, downloadable at http://www.international.ac.uk/media/1682653/International_Focus_82.pdf

sity, a university education programme, a faculty or a department forms a network (for instance 'star-shaped' with itself in the centre) with several partners. This central or leading university takes the initiative to send its students to one or more partner universities for a certain period of time and specific part of their curriculum.

- **Embedded mobility and curricula:** A limited number of universities (faculties, departments, programmes) partner up in a consortium (for instance 'ring-shaped') - strategic partnerships - in which students then 'rotate' and follow parts of their educational trajectory subsequently in two or more partner institutions, while students of those partner institution do the same. The curriculum is fully synchronised and developed by the consortium partners together.

10. Clearly, **the design of mobility schemes can differ for undergraduate and graduate programmes**, **and for different disciplines and level of specialisation of the programme**. The features of the three mobility schemes discussed here, generate a continuum of models for curriculum collaboration and mobility, each of which has a particular fit to the collaboration envisaged according to the opportunity analysis made by academics and programme managers. The 'exchange model' applies to individual mobility, which *in se* requires only limited collaboration. The second (networked) and third (embedded) model aim at more structured mobility, which requires stronger agreements and collaborations at the curriculum level.

1. The European Commission student mobility policy

In this Section, the Erasmus programme is briefly assessed and a short survey of the context and objectives of the Erasmus for All programme is provided.

1.1. Assessing Erasmus

11. LERU believes that systems of **student exchange are a strong asset** of the European higher education system. Since 1987, the European Commission has been running **Erasmus**[5] as one of its most successful programmes. More than 2,5 million students have participated in exchange schemes since then. Through Erasmus, exchange mobility has even become the edge of internationalisation at most European universities. In the framework of international cooperation, the European Commission has extended mobility schemes to other continents, also following an increasing demand of universities and students[6].

12. Rather consistently throughout all European countries, **reasons for students to study abroad** are**,** in no particular order, the opportunity to live abroad, to learn or improve a foreign language, to meet new people and to develop soft skills i.e. adaptability, social interactivity, which improve future employability. However, it is only a minority of students that decides to participate in Erasmus mobility because of the good alignment with the curriculum at the home institution[7], which LERU considers to be regretful as is explained below.

13. The Erasmus programme is reaching its limits because of several reasons[8]:

• The participation of students in mobility schemes, while on the rise, is still too low. Several barriers persist such as thresholds induced by socio-economic background and financial reasons, socially induced thresholds (family and personal relation-ships), insufficient information and awareness, recognition issues of diploma's and credits, an imminent danger for study delay, and eventually also the weight of administrative burden[9].

• The budget allocated to Erasmus, by both the EU and national agencies, does not increase in proportion with the number of participants. This implies that the individual Erasmus grant on average has been decreasing over the years.

• Even when new incentives would be available to achieve the European objective of 20 % student mobility by 2020[10], the question remains how the other 80 % of the students will experience internationalisation, apart from 'classical' '*internationalisation@home*' initiatives.

• It has often been argued that virtual mobility could contribute to reaching the 20 % goal, as it can indeed offer a valuable alternative for physical mobility, facilitating an international experience for those students who encounter social, financial, physical or other thresholds. Of course, this is true for this specific segment of students, but it is equally true that virtual mobility can never completely replace physical mobility.

• Erasmus comes with a (huge) administrative overhead often unaccounted for, as in many cases it is hidden in the academic programmes, of which the organisational work is done by teaching staff/professors and/or by (local) department administrations. Therefore the required administration is often perceived as a problem. In some countries and institutions there have been difficulties with an imbalance of inflow and outflow of Erasmus students and, in some cases, for host institutions to find the necessary administrative and human resources.

5   **EuR**opean Community **A**ction **S**cheme for the **M**obility of **U**niversity **S**tudents. See also http://ec.europa.eu/education/erasmus/history_en.htm and http://ec.europa.eu/education/lifelong-learning-programme/doc80_en.htm

6   Through the Erasmus Mundus, Action 2 programme, see also http://eacea.ec.europa.eu/erasmus_mundus/programme/action2_en.php.

7   European Parliament, *Improving the participation to the Erasmus programme*, Study, requested by the European Parliament's Committee on Culture and Education, Directorate-General for Internal Policies, 2010, p.53.

8   See also Eds. Ulrich Teichler, Irina Ferencz and Bernd Wächter, *Mapping mobility in European higher education, Volume I, Overview and Trends.* Study for the Directorate-General Education and Culture of the European Commission, 2011, p.8.

9   European Parliament, ibidem, p. 61.

10   The Bologna process 2020 - The European Higher Education Area in the new decade, Communiqué of the Conference of European Ministers responsible for higher education, Leuven and-Louvain-la-Neuve, 2009, p.4

- Staff and curriculum management are not always supportive of student mobility, since mobility is often not considered to be an integral part of the curriculum, but rather an accommodation to individual students.

- Finally, LERU also observes that the large number (often hundreds) and the geographically wide scattering of institutional agreements over many partner universities impedes in many cases a coherent, centralised, quality-oriented institutional policy with respect to student mobility.

1.2 EC thinking on mobility: Erasmus for All

14. The **Erasmus for All** programme[11] for 2014-2020, as proposed by the European Commission (EC) in November 2011, seeks to remedy at least some of the deficiencies that are outlined above. If approved the **Erasmus exchange "new style"** will be characterised by more flexibility, should allow for intermittent and shorter mobility periods, and should stimulate the creation of **strategic partnerships at the curriculum level** to develop more structural collaboration and mobility between universities. The highlights of the key actions in Erasmus for All are:

- **Key action I: Learning mobility of individuals:** Staff (teachers, trainers, school leaders, youth workers); Students (HE students (including joint/double degrees), VET students); Master students (Erasmus Masters via a new loan guarantee mechanism); Youth mobility (volunteering and youth exchanges); International dimension (HE mobility for EU and non-EU beneficiaries).

- **Key action II: Co-operation for Innovation and good practices:** Strategic partnerships between education institutions (or between youth organisations) and/or relevant actors; 'Knowledge Alliances' (Large-scale partnerships between higher education, training institutions and business); Sector skills alliances; IT support platforms, including e-twinning; International dimension (capacity building in third countries, focus on neighbourhood countries).

- **Key Action III: Support for policy reform:** Sup-

port to open methods of coordination (ET 2020, EU youth strategy) and EU 2020; EU transparency tools (valorisation and implementation); policy dialogue with stakeholders; International dimension (policy dialogue with third countries and international organisations).

15. In the EC's proposal about 60% of the Erasmus for All budget is reserved for individual mobility initiatives. 25% of the budget would go to cooperations for innovation, which includes strategic partnerships.

16. Within these strategic partnerships, a variety of collaboration formats can be envisaged, that fulfill joint objectives.

16.1. Specific mobility arrangements can be made at the level of subject areas and options, courses and course units, seminars, intensive programmes, summer schools, projects, internships, thesis work, etc...

16.2. Mobility can be long or short, continuous or intermittent.

16.3. These formats can be supported through ICT frameworks, facilitating international teaching and learning and online or hybrid/blended mobility with a high interaction level.

16.4. Also, non-university research institutions and corporate partners can be included in these collaborations and mobility schemes.

17. All of these instruments facilitate the development of a **diversified institutional mobility policy** for the curriculum, which is goal-oriented, flexible and scalable.

18. This all connects well with the **Europe 2020 Strategy**[12] and its implications on higher education policy, including the integration of research-innovation-education in the knowledge triangle. This blends also in with the **Modernisation Agenda** for Higher Education (2006, 2011), especially in objectives such as improving the quality and relevance of teaching and researcher training, providing more opportunities for students to gain additional skills through study or training abroad, and encouraging cross-border co-operation to boost higher education performance[13].

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11   European Commission, Erasmus for All: The EU Programme for Education, Training, Youth and Sport, Communication from the European Commission, Brussels, 23.11.2011, COM(2011) 787 final. See: http://ec.europa.eu/education/erasmus-for-all/ See also: Council of the European Union, Proposal for a regulation of the European Parliament and of the Council establishing "Erasmus for All", 12 May 2012.

12   See: http://ec.europa.eu/europe2020/europe-2020-in-a-nutshell/priorities/index_en.htm.

13   See: http://ec.europa.eu/education/higher-education/agenda_en.htm

2. A Taxonomy of three models of student mobility schemes

19. Having briefly assessed the pro's and con's of Erasmus and the opportunities created by Erasmus for All, we will now discuss a taxonomy of different mobility schemes, which will be compared with respect to several qualitative features, such as objectives, participation of students, impact on the curriculum, type of partnership required, the relation with research intensity, the involvement of staff, parameters that characterise the quality of the mobility experience and managerial issues, etc.

20. Using these qualitative features, we will distinguish between three types of mobility and collaboration:
    · Exchange mobility and collaboration;
    · Networked mobility and collaboration;
    · Embedded mobility and collaboration.

21. In practice, it is likely that these three types of mobility and collaboration co-exist in one and the same university, as it might be involved in several agreements and consortia at once.

22. Although three seperate types of mobility and collaboration schemes are described, with qualitative characterizing features, in reality one can design mobility schemes that are characterised by a mixture - a continuum - of the typifying features that are described here.

2.1 Exchange mobility and collaboration

Description of exchange mobility and collaboration:

23. In exchange curricula and exchange mobility, students, in particular undergraduates, choose a study abroad at a host university, according to an *individual mobility arrangement (type Erasmus agreement) for courses on which the host and home university agree*. The credits attained during this mobility period are recognised by the home university, which ultimately awards the final degree. As part of the agreement, the host university offers to mobility students all services that allow them to follow the programme successfully. Individual exchange is the basis from which internationalisation has started at most European universities.

24. From an organisational point of view, exchange collaboration and mobility are *flexible*. They are relatively easy to implement, even when universities are not well acquainted with each other, but nevertheless can rely on a sufficient level of trust. Whereas until today a minimum stay abroad of three months was required from exchange students, in the future shorter and intermittent periods could be admitted in the Erasmus programme. This makes it even more flexible and helps to *diversify mobility formats,* which can be used to achieve the objectives of the exchange.

25. Also, from a students' perspective, exchange mobility can contribute to the *personalisation of the curriculum*.

Objectives:

26. The objectives of exchange collaboration and mobility mainly concern *the individual student*, not the curriculum. Through *an intensive immersion* in another country, the student gains an international/intercultural experience, (s)he learns another language and acquires social skills, and (s)he benefits from a personalised, international curriculum, contributing to the student's later employability.

27. Exchange collaborations and exchange mobility lead to enriched learning opportunities for students. In research universities, this mobility may link to *specific topics involving research and innovation*, i.e. specific theory and research domains, methodology, research seminars, innovation projects, thesis work, etc., although the universities involved do not necessarily design detailed mobility paths in advance.

Participation of students:

28. Until now, a relatively *small number of students* has been involved in student exchange, even if the European number in absolute terms exceeds 2,5 million of students. When the European benchmark of 20% mobility would be reached, this still leaves out 80% of the students. Nevertheless, in many curricula international learning is regarded as an important objective "for all".

29. This relatively low participation rate can be related

to personal factors (cfr. supra), but it is also due to organisational issues. Long term exchange for large numbers of students in the average curriculum is impossible to arrange, i.e. due to logistics (i.e. housing) and shortage of financial means (e.g. student grants).

30. Another reason for low participation can be the curriculum itself. When exchange is not an organic part of the curriculum, students nor staff 'feel' an academic need for it. In some countries, there is an increasing and formalised emphasis on learning outcomes, which sometimes complicates exchange mobility. A condition for increasing mobility numbers is that mobility becomes an integral part of a curricular framework.

Impact on the curriculum:

31. In exchange collaboration and mobility, *no substantial structural adaptation to the curriculum* is required. Exchange mobility basically is giving students the opportunity of having a different learning experience abroad on an individual basis. Often language facilities are provided in the host programme, in order to better accommodate incoming students.

32. Despite this lack of structural impact on the programmes, exchange mobility can certainly contribute to the curriculum, i.e. when it is used to create **"internationalisation at home"** learning activities in the classroom. However, more often this only contributes rather co-incidentally to the internationalisation of the curriculum.

33. Because of the low impact on the curriculum, exchange collaboration and mobility can **be flexibly organised in nearly all curricula**.

34. From a student's perspective, there is an **indirect impact on the curriculum**, since a student is allowed to follow a different, but equivalent part of his curriculum at another university. Here, an opportunity is given **to personalise the curriculum**.

35. The quality of exchange collaboration and exchange mobility are to be evaluated on the basis of the **mobility experience and the learning outcomes of individual students**. When students assess their mobility experience, typically they show a high satisfaction in terms of the experience of living abroad, of social and cultural learning, of personal development and sharpening their "soft skills". **Learning outcomes** are enriched by language and communi-

cation skills. Academic learning outcomes are generally experienced to be positive as far as the credit points and records show. Recognition issues in some universities reflect probably a lack of equivalence with regard to academic objectives between the universities concerned, due to inadequately negotiated partnerships. Probably also the opportunities and possibilities offered by virtual mobility are still underestimated: ICT-tools could help to support exchange mobility before, during and after the physical mobility period, and could help to link it with internationalisation@home initiatives.

36. The **business model** for exchange curricula and mobility is based on and inspired by the Erasmus scheme: bilateral agreements between the universities concerned, learning agreements for students and tuition fee neutrality. A mobility balance between home and host students is pursued.

37. The **management** has evolved from a curriculum-based management ("international programme committees") to an institutional level. In practice, the institutional management serves only as a link between the faculties and programmes to the funding channels of the European Commission. Related to the number of students involved, the **management cost** for exchange programmes is often underestimated, or even unaccounted for, as it requires a considerable amount of administrative staff efforts and time. Academic staff time is limited to the preparation of mobility agreements.

2.2 Networked mobility and collaboration

Description of networked mobility and collaboration:

38. In networked curricula and mobility, each partner in the network runs its home curriculum independently of the other partners, but structural mobility is part of the programme. "Mobility windows" are created in the curriculum as they align with **course packages and mobility paths in partner universities, designed in advance and intrinsically related to the curriculum**. Hence, each curriculum is extended with courses or course packages in other universities, which enlarge and enrich the curriculum that can be chosen by the student.

39. Because of the prior intervention of the programme management, networked mobility is eventually less flexible and less personalised than individual

exchange, but the *course packages offer learning opportunities that optimally fit with the home curriculum*. They consist of diverse learning activities like complementary major or minor courses, specialisation courses, research internships, joint projects or thesis work.

40. The *size of the course packages* can vary in time from a single course unit to a complete major or minor programme. All depends on the objectives of the collaboration and the role given to mobility. The focus is primarily directed on academic objectives in particular subject areas. Sometimes, only one or two courses, seminars or summer schools are needed to make the home curriculum more comprehensive or to create a real international experience. In these cases, the collaboration is limited, but still significant for the students. In other cases, complete study options and/or related research places are offered.

41. The partner institutions expect and stimulate groups of interested students to follow these packages as a diversification of the home programme. The *admission to a course package* is given by the host university in agreement with the home university. Networks should consist of a limited number of *partners* in order to sustain an active link with research. A long term commitment is required, preferentially based on a strong research cooperation between the researchers/departments involved. Enterprises and companies can be part of these networks to integrate all three parts of the knowledge triangle in the curriculum.

42. The management of these partnerships is not that complex, since basically the *Erasmus mobility* rules can be applied, once the course packages are defined. The ECTS system guarantees the *credit transfer and the recognition* of courses just as in the Erasmus programme. A *double certificate or double degree* can possibly be granted, since the scheme is based on two independent curricula, delivering to each other's students a substantial and coherent course package. This would be more appropriate than a joint degree, since the programme is not a common or joint programme. This is however optional and to be decided by the universities involved.

Objectives:

43. A typical objective of networked curricula is to offer students a *broader variety of subject areas or specialisations* than the home university can offer on its own. Therefore, the course packages should reflect research and innovation strengths, which are complementary to those of the home institution.

44. Next to this, networked mobility creates opportunities for students to benefit from *an international experience* by educational programmes abroad, which are closely related to international research or innovation activities and communities, in which the home university is taking part.

45. Networked mobility can also *serve institutional goals*. By sharing complementary subject areas, the profile of a curriculum can be broadened and strengthened. This leads to sustainable collaborations and networking with partner universities.

Participations of students:

46. The rationale behind networked curricula is that the average student is given a structural opportunity to follow a complementary course package in a partner university. Staff and programme management *are committed to organise student mobility as part of the curriculum*. Hence, the target number of students in networked mobility could be between 20 and 100%, depending on the policy of the curriculum and the size of the course packages. It is expected that students will feel more reassured that recognition is not an issue anymore and that their study time will not be prolonged[14].

47. A networked curriculum is attractive for *students from abroad* (e.g. from outside Europe) as they can benefit from more diversified, but coherent learning opportunities and pre-designed mobility schemes that bring them in different European countries. The quality of the curriculum is enriched by the broader learning opportunities and the multi-national experience.

Impact on the curriculum:

48. There is a *clear impact on the curriculum*, as it is en-

14   Eds. Ulrich Teichler, Irina Ferencz and Bernd Wächter, *Mapping mobility in European higher education, Volume I, Overview and Trends*. Study for the Directorate-General Education and Culture of the European Commission, 2011, p.183-184.

riched by external courses, increasing the range of courses and the learning opportunities available for students. These external course units are considered a systemic part of the home curriculum as is the international experience for students, taking part in the scheme.

49. It is possible to **modulate the dimensions** of the collaboration. Mobility packages and periods can vary according to the curriculum objectives, ranging from one course unit to a complete option or specialisation. Networked mobility is applicable for all programmes that want to organise a structured international experience for students.

50. Also **commercial companies, industry, government agencies and non-university research institutions** can contribute to the curriculum by co-organising specific learning activities, like research and innovation seminars or internships. Hence, it makes sense that they are part of the network as 'societal' stakeholders. However, they can have no formalised input to any curriculum as the design of academic curricula remains the exclusive prerogative of universities as part of their academic responsibility.

51. To enhance flexibility and scalability of the curriculum, **ICT support** can facilitate the organisation of a networked curriculum and include virtual/blended mobility schemes.

Quality:

52. Three quality aspects should be covered and monitored in networked curricula and mobility: the quality of the enriched curriculum, the quality of the international learning experience and the institutional benefits.

53. The **quality of the curriculum** is improved by broadening and/or deepening the curriculum through an extension of content/course modules, brought in by partner universities or enterprises on the basis of complementarity or common strengths.

54. The **international experience** is structured along pre-designed course packages in established partnerships. This should result in broadening and deepening learning, international collaboration skills, learning and working in (research) communities, etc. More than in exchange mobility, students participating in structured mobility are 'content-seekers' rather than international experience seekers.

55. At the **institutional level,** networked curricula may contribute to the international profile and the quality of the curricula of the university. In this way, a university can organise a broader range of programmes, based on the strengths of and complementarities in collaborations in research and innovation.

Management and business model:

56. Once the content of a networked curriculum is developed by the partners, **the implementation of networked mobility is easier to manage** than is the case with exchange mobility, because fewer universities are involved and the mobility paths are pre-structured. There is however more effort required in the preparatory design and in the development of the networked mobility paths, which demands an investment in terms of not only administrative, but also academic staff members.

57. However, **sharing subject areas** might decrease the institutional cost of networked curricula, because subjects or learning activities are distributed over the network.

58. The **business model** of networked curricula and mobility might be based on the Erasmus scheme like for exchange programmes. Since networked curricula emanate from collaboration at the curriculum level, it is even more likely that the mobility of students will be balanced. Hence, also this collaboration might probably be tuition fee neutral.

59. It is clear that a networked curriculum and mobility require **a stronger mutual commitment** than bilateral exchange partnerships. Therefore, networked curricula should be built with reliable, preferential partners that already collaborate in research or innovation.

2.3 Embedded mobility and collaboration

Description of embedded mobility and collaboration:

60. In the case of embedded curricula and mobility, students choose for a joint programme, of which the components are taught by different partners and on different locations. This type of collaboration optimally integrates all relevant educational, research and innovation strengths of the partners. It is a **distributed international, multi-partner and mul-**

ti-campus curriculum with embedded mobility flows. Basically, the current *Erasmus Mundus model* might help as an inspirational conceptual framework for this kind of collaboration.

61. In this type of mobility scheme, mobility is conceived along pre-designed mobility paths (individual study programmes (ISP's), that explicitly imply mobility. *Joint certificates/degrees* may be delivered, because only one single programme is organised.

62. It is clear that such intensive collaborations are realistic and feasible *only for a limited number of specific, strategically selected international curricula*: niche specialisations, small disciplines, comparative approaches, international subject areas and top class international curricula, which also attract international students from outside the partner institutions.

Objectives:

63. An integrated curriculum with embedded mobility paths will be organised in case there are **opportunities in a multi-partner collaboration,** because of the expertise and disciplines required or the curriculum profile chosen. A broader range of expertise and disciplines are made available by the collaboration as well as in specific links with research or innovation (e.g. in a partner university or in non-university institutions or enterprises).

64. Students will experience a common approach to the subject area and will be faced with a rich diversity of themes and methods. They are part of a multi-campus teaching and learning environment in different social and cultural contexts and different languages. As integrated curricula will only be organised for selected programmes, students will benefit, through the complementarity and collaboration between universities, from **a top international experience**. Also, these programmes will lead to unique specialisations.

65. Embedded mobility curricula offer *internationally unique programmes*, thanks to collaborations in research and innovation in areas which otherwise are not covered, meeting very specific societal needs and delivering internationally recognised added value.

Participation:

66. It is clear that international curriculum collabo-

ration with structured mobility can not be implemented in all university programmes, because of organisational and logistic aspects. This type of mobility scheme and curricula only applies **for well-chosen programmes**, at the undergraduate and graduate level, characterised by a **strong underlying basis of collaboration in research and innovation**. Conversely, precisely these programmes should seriously consider adding an extra international dimension. Since mobility paths are embedded in the curriculum, probably a majority of the students, even up to 100% in a classroom, will participate in it.

67. In integrated curricula, mobility is embedded in the curriculum along specific course packages and hence, all students can benefit from this mobility scheme. Since students belong to a multi-university programme, the distinction between home and host universities and outgoing (home) and incoming students is not necessarily relevant. Students are 'shared' and there are common admission and selection procedures as well as common examination rules.

68. Because of the level of specialisation, these programmes will probably attract smaller numbers of *home students*. On the other hand, because of the high quality and pre-defined mobility schemes of integrated programmes, these will be very attractive for **international students.**

Impact on the curriculum:

69. As this is a joint curriculum, the collaboration has an *impact on all aspects of the curriculum*. Even more than networked curricula, *integrated curricula and mobility need to be jointly designed.* This should start with identifying common objectives, based on an analysis of the needs and on current scientific and professional developments. The curriculum, including the mobility paths based on complementary strengths, is subject to collaborative development that requires considerable time and effort from academic staff and researchers, supported by administrative staff before it can be implemented.

70. The organisation of an integrated curriculum typically consists of a common part (truncus communis) in one university, completed by complementary options in different universities. Other curriculum structures are also possible (for example a ring-shaped structure with consecutive parts), depending on the objectives and mobility paths.

71. The curriculum is often built on courses and modules that already exist in other curricula at the different partner universities. *The relative positioning of these courses and staff will however change*, because they have become part of a new, trans-institutional programme.

72. *ICT environments*, including online/blended mobility can strengthen the integration and optimise the organisation and quality of integrated programmes.

Quality:

73. The added value of an integrated curriculum could manifest itself in the quality of the curriculum, the quality of the learning experience and the added value at the institutional level. Indeed, integrated curricula by themselves have no built-in guarantee for quality assurance (nor do other mobility schemes). However, integrated curricula in embedded mobility schemes have some inherent quality improving mechanisms that are not necessarily shared by other mobility schemes:

74. The *quality of the curriculum* is facilitated by interactions, agreements, finetuning and synergies between different partners. Strengths and complementarities are integrated in one, multi-partner curriculum. A joint curriculum requires more coordination, which therefore probably improves the overall quality of the curriculum.

75. The *quality of the international experience* for the student is assumably better, as all teaching and learning activities take place in an environment that is international by construction, and typically centers around a common, scientific theme or discipline.

76. At the *institutional level*, integrated curricula may contribute to the quality of the international educational provisions and international strategies of a university. They could be highly inspirational for other (local) educational programmes and if successful, could develop into a role model in the educational biotope of the university.

Management and business model:

77. An integrated programme requires a *joint management through a consortium,* as it has to deal with all aspects of international collaborative course development and implementation, including mobility, admission and selection, assessment and exami-

nation, and the awarding of degrees. The business model, the tuition fee structure and the sustainability of the curriculum are also subjected to a joint policy.

78. Because the management of an integrated programme is dealing with all aspects of the programme and the mobility of the students in the programme is 100%, the **development and implementation cost** of integrated curricula is high. On the other hand, through *sharing course modules*, the institutional cost will also decrease. The additional cost concerns more the student, i.e. additional travel and subsistence costs.

79. Integrated programmes and mobility require a **strong partnership**, based on ongoing collaboration strengths in research and innovation with agreements for at least 5 years. A consortium is preferably small and it can include non-university organisations.

2.4 Features of mobility schemes: comparative table

80. The following table lists the three distinct types of mobility schemes, which are described in this paper and compares them by reference to qualitative features, some of which have been described already, and introduces some other ones that have not yet been discussed:

	Exchange curricula and mobility	Networked curricula and mobility	Embedded curricula and mobility
Type of curriculum collaboration	No curriculum collaboration	Mainly tuning of mobility course packages, which are part of independent curricula	A single, joint curriculum with agreed mobility flows within the partnership
Type and number of agreements	Many bilateral agreements	Number of partners in one network might be up to 10; Several networks possible	Rather limited number with well selected trusted partners
Type of network	Dense network with many bilateral links	'Star-shaped' network: Demand node in centre, supply nodes around it; Students 'belong' to the centre	'Ring-shaped' network; Students move around in the ring
Type of Mobility	Individual exchange mobility between independent programmes in many selected universities	Networked mobility between independent programmes	Embedded/integrated mobility within a single, integrated programme
Type of course package for mobility	An individual course package, selected by the student and staff of the home university	Pre-defined and agreed course packages, offered by respective programmes in the partnership	Various pre-defined course packages, offered by respective partners, which are integral part of the joint programme
Type of partnership, number of partners, co-ownership	Partner universities with bilateral agreements; possibly many partners; no co-ownership	Network, bilateral or multilateral agreement; a limited number of partners; no co-ownership	Strategic alliance, led by a consortium; a small number of partners; co-ownership by the consortium partners
Collaborative curriculum design	No collaborative curriculum design, only agreements on mobility	Collaborative curriculum design for the mobility packages only, emphasis on differentiation	Collaborative design for the entire curriculum, emphasis on common identity and differentiation
Relationship with research and innovation	Possibly loose collaboration links	Course packages reflect preferably collaboration links in research and innovation	Joint programme should be based on links in research and innovation and broader needs analysis
Involvement of staff	Staff accommodates incoming students; Administrative support; Little additional work for academic staff;	Possibly, small repositioning of staff and courses for the mobility course package only. Staff accommodates incoming students.	Repositioning of staff and courses in the joint curriculum according to overall objectives
Flexibility by ICT platforms, blended teaching and learning provisions	Facilitating participation of higher number of students; ICT-tools before, during and after stay abroad increasingly important.	Facilitating participation of higher number of students and for overall flexible and cost-effective solutions	Indispensable for full participation of students and overall cost-effectiveness. Basic for joint teaching and learning space
Admission and selection	Mainly by home university within the terms of a bilateral agreement	Admission and selection by host university for the course package (on proposal of home university)	Common admission and selection procedures for the entire programme
Typical degree or certificate awarded	Non-degree seekers; only credit recognition	Possible double degree	Possible joint degree
Proportion of students involved in mobility	20% benchmark	Plus 20 %, strongly increased mobility; Target between 20 - 100 %	In principle for all students, mobility is inherent to the programme
Quality assurance	Primarily by host university; questionnaires to outgoing and incoming students	Primarily by host university; questionnaires to outgoing and incoming students	Joint quality assurance and accreditation procedures
Attractiveness for third partners (worldwide)	No	Moderately	Strong
Sharing/pooling resources, saving institutional costs	No	Moderately	Very strong
Commitment of partners	Bilateral, rather weak	Bilateral, strong	Very strong committment
Management cost	Under control (though often unaccounted for)	Moderate	Possibly larger cost involved

3. Why bother about structured mobility?

81. In Section 3.1 it is emphasized that structured mobility schemes can create more opportunities for certain types of programmes at research-intensive universities. In Section 3.2, we elaborate on some policy issues. The benefits of structured mobility schemes for students are discussed in Section 3.3, the benefits for staff members in Section 3.4 and for the participating institutions in Section 3.5. In Section 3.6, we discuss some logistic advantages, while managerial aspects are discussed in Section 3.7.

3.1 Structured mobility schemes create new opportunities

82. In **embedded mobility schemes** academics organise a common educational programme around a specific scientific field or theme. Programmes best suited for embedded mobility are typically more research driven (e.g. the Erasmus Mundus programme on Nanotechnology between three European research teams), in which the complementarity in scientific expertise, technological logistics and equipment can be fully exploited. Other examples are programmes that correspond to small scientific fields (so-called 'orchid-disciplines') or that are highly specialised.

83. For **academics in research-intensive universities, such as the LERU members**, the main objective for seeking international collaboration is research quality, for which they intend to cooperate with the best and most appropriate colleagues and/or research 'peers'. For this purpose **networked and embedded mobility schemes** might prove more appropriate and effective, provided the initiative is taken and organised by the academics themselves, and that these academics are sufficiently supported administratively and logistically to set up such mobility schemes.

84. There is an apparent **gradient on the degree of research-intensiveness and specialisation**, that increases when moving from individual exchange types of mobility, over networked mobility towards embedded mobility schemes. *(see figure)*

85. In research-intensive universities, many educational programmes are immersed in a top research environment in which the academics want to excel both in teaching and research. In such programmes, students are trained to understand and to interpret research and innovation in their timeframe and in the context of their origin. These students gradually develop skills through educational activities which mirror the aspects of research and innovation processes. They learn to collaborate with others to solve complex, interdisciplinary problems, participate in research activities of staff and prepare papers or a thesis. They also experience the strengths and the limitations of research and innovation. **Research and innovation institutions as well as society at large will benefit from students who experienced excellent education in such strong research environments**.

86. **Students will participate in an embedded mobility scheme mainly for thematic or scientific reasons**, but will at the same time experience the cultural objectives mentioned above, as they will 'rotate' over the several locations of the partners between which the programme is organised. We expect however that the decision of students to participate in embedded mobility will mostly be content driven, and therefore their profiles will be more consistent within one programme (scientific discipline, language, etc.).

87. **Research-intensive universities can offer research internships in some areas of specialisation**, possibly in cooperation with non-academic institutions. Col-

| Exchange mobility | Networked mobility | Embedded mobility |

Increasing research intensity and specialisation

laborative programmes with pre-structured mobility are **appealing** for excellent home and international students and hence potentially not only contribute to the competitiveness of the educational programmes and the research departments involved, but also, in the long term, to the global competitiveness of research-intensive universities because of improved opportunities for capacity building.

88. Collaborative curricula and mobility require **strategic partnerships** at the curriculum level. Partners commit to complement each other's programmes and to allow students to the respective mobility paths. By systemic synergies between academics, **a quality leap** is created, with agreed teaching and learning paths for sections of a class, not just for individual students. **It makes not only students, but also curricula transnational**.

89. One of the advantages of structured (and especially embedded) mobility schemes could be **the linkage between capacity building and mobility**. Indeed, exchange mobility schemes concentrate on the objectives of mobility *per se* (the individual experience for the student) while structured mobility schemes (embedded in particular) emanate from academics who collectively design a consistent, thematic curriculum, hence concentrating on topical, content driven objectives in which mobility objectives follow automatically. In this respect, on a longer term, such structured mobility schemes could be accessible to undergraduates, master and PhD students, and staff alike, all within the same focus domain of research, provided the academics involved desire to open up and enlarge the scheme.

90. Through ICT support and the inclusions of virtual components, mobility can be facilitated for even more, if not all students. These tools would allow students to participate in seminars, projects or course units, jointly organised by all the partner universities. Online and virtual mobility can be combined with physical mobility, which is then called 'blended mobility'. While physical mobility is leading to an immersion in an academic culture at another university, in a different societal context, online virtual mobility has other specific advantages: it can simultaneously engage all students in a class, as there are no physical barriers for trans-border communication; It is not only 'almost' independent from the specific location, but also

in the 'time-dimension', it is completely flexible (asynchronous, individual, at any moment in time); multiple but similar programmes at different universities can engage simultaneously; students and staff who for one reason or another cannot be physically mobile, can resort to virtual mobility; there may also be other target groups such as part-time and/or employed students, students with special needs or students that opt for self-study.

91. Curriculum collaboration and mobility can also have an added value for the university's profile, as the strategic partnerships in which the institution is involved, can improve the international position of the university.

3.2 Impact on policy

92. International curriculum collaboration with structured mobility can only be implemented in some university programmes because of organisational and logistical aspects. Structured mobility schemes can only be realised **for well-chosen programmes**, at the undergraduate and graduate level, characterised by a strong underlying basis of collaboration in research and innovation. Since the mobility is inherent in the curriculum, probably a majority of the students in that programme, even up to 100%, will benefit from it, depending on the type of collaboration and the related mobility scheme (see below).

93. That research-intensive universities should **invest in the internationalisation of their leadership**, goes without saying. The lack of diversity at the highest level of academic leadership was analysed for more than hundred leading academic institutions across Europe, USA and Asia[15]. The overwhelming majority of academic leaders in most countries were citizens of those counties, with only 10% of the leaders being foreign citizens. There are significant differences between regions. **Intensifying both quantity and quality of student and staff mobility seems like a first necessary step in enhancing diversity in leadership.**

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15   In a recent paper 2012 from Egon Zehnder International (Strenghtening the diversity of top academic leaders: Findings and insights from Egon Zehnder International's Global Academic Leadership Surevy).

3.3 Benefits for students

94. More structured collaboration will also contribute to the attractiveness of curricula for **international students** from outside the partner institutions.

95. Students are important stakeholders for international curricula and courses. In a nutshell, specific benefits for students are:

   • Getting an **intercultural experience** by learning in an international environment, with cultural and languages differences, which enlarges their mindset, stimulates thinking from different perspectives and let them take into account different views and sensitivities in their communication

   • Having **access** to the programmes of partner institutions, learning complementary subjects or being able to choose different competence profiles (which eventually are not taught at the home university), related to complementary research and innovation areas.

   • Being reassured about the quality, in the case of **structured mobility (i.e. networked or embedded)**, as these mobility schemes are organised by their professors and the credits are mutually recognised. Students should also not fear an unnecessary prolongation of their study.

   • **Learning to collaborate** in international communities (international collaboration skills) related to particular subject areas, research and innovation.

   • Having access to **resources** at the partner institution, including libraries, databases, special infrastructure, labs, research reports, facilities, staff.

   • Getting prepared for an **international scientific or professional career** (international employability).

3.4 Benefits for staff

96. An important requirement for any collaborative programme are the incentives for academic staff. Benefits are basically of an academic nature:

   • Structured mobility education **reflects academic work/research** which in essence is international ("knowledge without frontiers"). Staff members who are interested in research cooperation, also consider educational cooperation as a professional enrichment.

   • Collaborative education is also **reinforcing research and innovation links**, even more when doctoral students are involved in the programme.

   • An attractive programme is a **good basis to attract international students** with whom staff can collaborate later ('capacity building').

   • International programmes are **European and global**, which is appealing to staff.
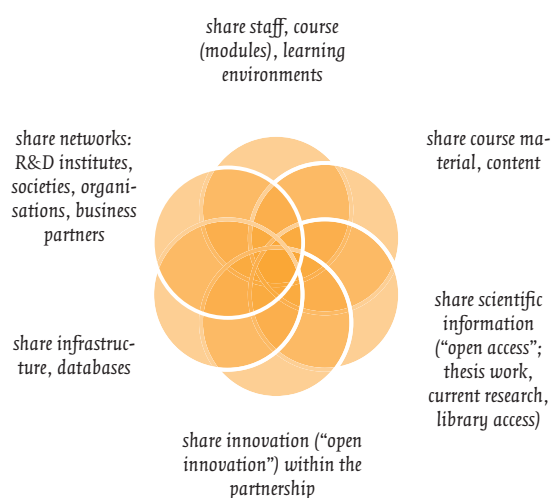
3.5 Institutional benefits

97. Collaborative curricula and mobility have clear institutional benefits:

   • Collaborative curricula strongly reflect the **university's ambitions for high quality teaching,** similarly to the high quality standards they expect in international research and innovation.

   • Collaborative curricula facilitate **the involvement in education of non-university stakeholders:** international R&D institutions, companies and organisations, as they are in research and innovation.

   • Collaborative curricula **include also home students** in an international teaching and learning environment and offer to them opportunities for an attractive mobility path.

   • **Teaching and learning activities can be shared between partner institutions**, which ultimately will lead to a more complete and richer range of courses in a time when individual universities have to reduce the number of courses.

   • In some cases, programmes and curricula may become more **cost-effective**, i.e. when staff and resources are pooled and shared, especially in areas of specialisation and expensive infrastructure. In some other cases, by joining forces and exploiting complementarities, the organisation of certain specialised programmes can become financially feasible, while it is impossible for a single university to offer that programme. On the other hand, there is also a cost for developing the collaboration, administrating the scheme as well as a mobility cost for students (which can be covered by Erasmus grants, see below).

- Embedded curricula are **more attractive to international students from** outside the partner institutions than standard curricula offered at one institution, as they are richer (see above 'benefits for students') and because of the possibility to participate in pre-designed mobility flows.

- In this sense, collaborative curricula have an impact on the **international reputation** of a university.

3.6 Logistic benefits: pooling resources

98. The pooling of resources through collaborative programmes can **enrich the learning environment of the partner institutions concerned** and make it more powerful. In principle, in a collaborative curriculum, **various components can be shared**: staff, course content (courses, modules), scientific information (current thesis work, research, libraries), innovation (access to R&D, knowledge transfer), infrastructure (computers, research infrastructure, labs, databases, research material, etc.) and networks (organisations, societies, business partners, etc.).

99. However, **collaboration also creates substantive additional costs**, i.e. administration, international travel, accommodation and costs related to specific needs of students enrolled in these programmes. It is important to guarantee, in any form of collaboration, that benefits and costs are balanced.

share staff, course (modules), learning environments

share networks: R&D institutes, societies, organisations, business partners

share course material, content

share infrastructure, databases

share scientific information ("open access"; thesis work, current research, library access)

share innovation ("open innovation") within the partnership

3.7 Management aspects

100. In exchange mobility in general, and the Erasmus programme in particular, mobility was mainly the product of working relationships between **individual academics and university departments**. For networked and integrated mobility, the initiative is mainly coming from the course and curriculum staff, who want to improve their course or programme with partners they trust and from whom they expect complementary expertise.

101. In structured mobility schemes, the **institutional impact becomes more important and issues are raised that affect institutional policies** like the place of the curriculum in the institution, the recognition by national authorities, the delivery of (joint) degrees and certificates, admission and selection criteria, examination rules, quality assurance and accreditation. This requires institutions to be flexible in adapting their policies and instruments regarding collaborative initiatives. Institutions should provide the necessary means to facilitate cooperations of various kinds conceived at the curriculum level, meeting the wider interests of staff and students.

102. The more the collaboration shifts from exchange to networking and embedding, the more complex the management becomes as well. This is something that academics who take an initiative in networked or embedded mobility should take into account. Practical issues, especially for structured mobility schemes, include the solution of problems related to different tuition fees (e.g. the fact that balanced flows of incoming and outgoing students are not fee neutral for many universities), the synchronization of timelines in coping with different calenders for the academic year, alignment of credit and diploma requirements, logistic issues induced by student mobility (like housing, etc.), among others. In other words, the benefits will not come without an additional effort, for which sufficient administrative, organisational and logistical support should be available (also see recommendations).

103. Recent improvements and breakthroughs in ICT have induced the growth of online teaching and learning worldwide. This will strengthen the opportunities for international curriculum collaboration and mobility. Universities can combine this with physical mobility in blended or hybrid formats. Partners in these mobility schemes will increasingly use all possible channels of their electronic environment for teaching and learning as they do for research. This will require expert support from teaching and learning services.

4. Recommendations

4.1 Recommendations at the European level

104. LERU supports **Erasmus for All** as it has the potential to give a new impuls to the current Erasmus programme and to stimulate strategic partnerships that will allow **curriculum collaboration and a variety of forms of mobility.** In particular LERU welcomes the flexibility in Erasmus For All, in the three key actions, that will allow to implement structured mobility schemes as described in this paper.

105. LERU believes the new programme should result in **an adaptable framework** that can respond efficiently to the rapid changes in university education and international global competition. Equally, it should also continuously stimulate the quality of educational programmes and partnerships. It is therefore crucial that the programme is revisable when new challenges or ideas occur.

106. Of particular importance is the necessity for **adequate administrative, organisational and logistic support for programme managers** who start or support international collaboration around structured mobility schemes. Indeed, as the initative for these schemes resides with the academics, they need to be supported in developing the curriculum and practicalities that come with it, so that they can concentrate on the content rather than on organisational and practical issues. LERU therefore pleads for **the reimbursement of a substantial overhead cost in the relevant parts of Erasmus for All** to stimulate and support universities in organising these schemes. We also underline that it is necessary to provide more flexibility by allowing partnerships with only two partners, rather than minimally three, and by decreasing the level of administrative reporting. The latter should be replaced by reporting on the achieved deliverables and academic output.

107. For universities to be able to deal with a number of **practical issues** it is necessary to provide funding for administrative and logistical support as well in European mobility programmes. This is in particular the case for structured mobility schemes, but as mentioned in the first part of the paper, managing and organising the existing exchange mobility schemes such as Erasmus currently also places a large burden on many universities. LERU therefore urges for an increased financial support of these schemes as well, including financial support for administration and logistics.

4.2 Recommendations at the national level

108. LERU emphasizes that also national governments should encourage the improvement and optimization of university curricula through international collaboration and mobility. They should remove existing barriers related to degree recognition and rules that hamper international curricula. As has been stated in the Communiqué of the Council of Ministers of Education in Bucarest (2012), the social dimension of mobility should be ensured, giving students equal access to mobility, including the portability of grants and loans across the European Higher Education Area. Also, national qualification frameworks should take into account international programme collaboration and mobility.

4.3 Recommendations at the institutional level

109. LERU believes that, on the longer term, curriculum collaboration and mobility, based on strategic partnerships should become **part of the international policies and strategies of a university, leading to excellence**, notwithstanding that only 'bottom-up' initiatives of academics will generate the necessary 'buy-in' and goodwill. Enhancing the visibility of successful programmes and informing about best practices might be the best way to create interest for curriculum collaboration with the academics, apart from providing sufficient financial means (e.g. European funding) for administrative, organisational and logistical support of programme managers.

110. The **institution's policy on collaboration and mobility should allow for more diversity in mobility schemes,** based on the quality requirements of the researchers and curricula, and objectives of academics, researchers and students. More flexibility is necessary as clearly **the design and purpose of mobility schemes can differ for undergraduate and graduate programmes**, **and for different disciplines and their level of specialisation**. The features of the three mobility schemes discussed in this paper, generate a large diversity of models for curriculum collaboration and mobility, which all

suit different programmes, students or academic staff members.

111. Exchange mobility is the mobility form which is easiest to implement in many, if not most, programmes. LERU recommends that institutions seek to make a wider range of exchange mobility options available during the course of a programme, including mobility for short periods through e.g. intensive courses or summer schools. Mobility can also be organised at intermittent stages and internships in innovative, non-university institutions should be considered as well.

112. **LERU strongly believes in the added value of networked or integrated/embedded mobility**, especially at research-intensive universities. We therefore wish to encourage European universities, in particular the LERU members, to consider such mobility schemes as we believe it to be an important step towards the modernisation of Europe's higher education institutions.

About LERU

LERU was founded in 2002 as an association of research-intensive universities sharing the values of high-quality teaching in an environment of internationally competitive research. The League is committed to: education through an awareness of the frontiers of human understanding; the creation of new knowledge through basic research, which is the ultimate source of innovation in society; the promotion of research across a broad front, which creates a unique capacity to reconfigure activities in response to new opportunities and problems. The purpose of the League is to advocate these values, to influence policy in Europe and to develop best practice through mutual exchange of experience.

LERU publications

LERU publishes its views on research and higher education in several types of publications, including position papers, advice papers, briefing papers and notes.

Advice papers provide targeted, practical and detailed analyses of research and higher education matters. They anticipate developing or respond to ongoing issues of concern across a broad area of policy matters or research topics. Advice papers usually provide concrete recommendations for action to certain stakeholders at European, national or other levels.

LERU publications are freely available in print and online at www.leru.org.

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