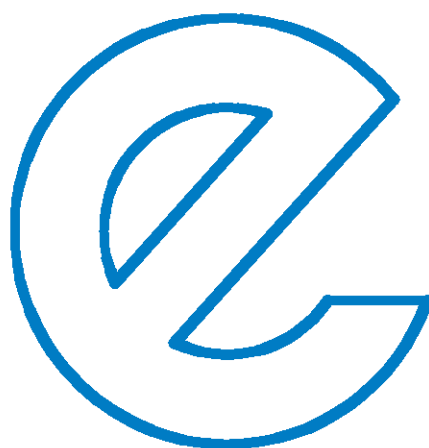# Career skill measurement for researchers

## Eurodoc position paper

# Career skill evaluation

## - Eurodoc Position Paper on needed career skills and skill evaluation

*In July 2011, the Commission published 'Towards a European Framework for Research Careers' in which a list of necessary and desired competences for researchers are elaborated. These competences are delineated according to four broad stages of a research career: first stage, recognised, established and leading.*

*This Eurodoc position paper complements the Commission paper and sets out a list of skills required for each stage and ways of assessing/measuring these skills.*

*Skills are acquired through a combination of extra-curricular activities, scientific work, networking, teaching and leadership. This paper aims to reflect this complexity and the continuous development required at each of the four career stages.*

Here are the needed skills for each of the four career categories:

### First stage Researcher
Doctoral candidates and other junior researchers in their early career  years setting up their own research framework, as well as those engaged in interdisciplinary research.

**Skills required:**
1. Effective teaching
2. Effective communication and presentation (verbal and non-verbal)
3. Networking
4. Building a conceptual framework

**Measurement of skills through a yearly evaluation based upon:**
1. Research assistantship (teamwork)
2. Time management
3. Planning and organising skills
4. Book reviews
5. Student evaluation of teaching
6. Peer evaluation of teaching

7. Ability to convey profound thoughts in an easy-to-grasp manner based on student and peer evaluation of teaching
8. Workshops, teaching seminars and self-reflection on teaching skills
9. Work with other departments, sectors and/or institutes
10. Conference publications
11. Conference presentation and other public speeches
12. Awards at conferences
13. Awards for teaching
14. Publication list in academic journals and popular media (blogging, newspapers, TV, radio etc.)
15. Courses attended and their outcome
16. Belonging to societies (scientific, peer related, industry etc.)
17. Report of activities and their result of extra-curricular activities – including involvement, organisation and leadership (if applicable) in societies of various kinds
18. Supervisor/mentor report
19. Researcher's action plan and reflections on current progress and future actions
20. An examination after 1-2 years into doctoral work to show the ability to build their conceptual framework for research.

## Recognised Researcher

Doctoral candidates and other junior researchers already with some publications and actively contributing knowledge to conferences and their research environment, as well as helping to formulate new interdisciplinary research frameworks.

### Skills required:
1. Effective teaching
2. Effective communication and presentation (verbal and non-verbal)
3. International networking through participation in international conferences, articles in international

journals, involvement in international research networks etc.
4. Writing in academic, popular and other media
5. Identify new research targets
6. Reviewer

**Measurement of skills through a yearly evaluation based upon:**

1. Research assistantship (teamwork)
2. Time management
3. Planning and organising skills
4. Book reviews
5. Supervision of student projects
6. Student evaluation of teaching
7. Peer evaluation of teaching
8. Curriculum/lesson development (framing a project, identifying key questions, know the main divides within the field/literature to offer comprehensive coverage)
9. Ability to convey profound thoughts in an easy-to-grasp manner based on student and peer evaluation of teaching
10. Ability to lead a seminar (guide others in knowledge exchanges and sharing) through feedback evaluations after the seminar
11. Workshops, teaching seminars and self-reflection on teaching skills
12. Work with other departments, sectors and/or institutes
13. Awards for teaching
14. Awards for conferences
15. Conference presentations
16. International journal publications
17. Amount of publications in popular media (blogging, newspapers, TV, radio etc.)
18. Belonging to international societies (scientific, peer related, industry etc.)
19. Organiser at international scientific events
20. Co-writer of scientific proposals
21. Working to create new interdisciplinary research frameworks
22. Serving as academic reviewer

23. Report of activities and their result of extra-curricular activities – including involvement, organisation and leadership (if applicable) in societies of various kinds
24. Researcher's action plan and reflections on current progress and future actions

## Established Researcher

Someone who has begun taking leading roles in research projects and has the ability to initiate new research projects, attract funding, etc. This would include academics but could also include post-doctoral researchers with some senior level of experience. Publications and also demonstration of leading research projects and their output puts researchers into this category. Some sort of accreditation/professional registration would be needed to help identify such researchers.

**Skills required:**
1. Effective communication and presentation (verbal and non-verbal)
2. International networking through participation in international conferences, articles in international journals, involvement in international research networks etc.
3. Project management skills
4. Leadership skills
5. Initiative and resourcefulness
6. Writing in academic, popular and other media

**Measurement of skills through a yearly evaluation based upon:**
1. Publication list in terms of quality as well as quantity (including citation index, impact factor for journals published in etc.)
2. Patents
3. Editing of journals and books
4. Book reviews
5. Amount and type of funding gained and new research projects initiated
6. Completion and success of research projects
7. Feedback report on research projects initiated and lead/leading

8. Report of activities and their result of extra-curricular activities – including involvement, organisation and leadership (if applicable) in societies of various kinds
9. Researcher's action plan and reflections on current progress and future actions

**Leading Researcher**

The same as "established researcher" but would also know how to handle large projects and a role as leader of a large number of researchers.  A head of a research department is an example of this type of researcher. Over time, these researchers can pioneer new ventures such as spin-off companies or large international research networks.

**Skills required:**
1. Entrepreneurship and initiative thinking
2. Embeddedness of research into society and businesses
3. Effective communication and presentation (verbal and non-verbal)
4. International networking through participation in international conferences, articles in international journals, involvement in international research networks etc.
5. Writing in academic, popular and other media
6. Leadership skills
7. Project management skills
8. Mentoring

**Measurement of skills through a yearly evaluation based upon:**
1. External examiner for PhDs or above
2. Publication list in terms of quality as well as quantity (including citation index, impact factor for journals published in etc.)
3. Patents
4. Book reviews
5. Employee evaluations and turnover
6. Feedback report for those mentored
7. Workplace satisfaction surveys

8. Writing of textbooks and other material seem as leading in a given scientific field
9. Invited visits to foreign Universities
10. Editor of journals, conferences or other types of 'gate-keeper' activities
11. Amount and type of funding gained and new big research projects initiated
12. Completion and success of large research projects
13. Feedback report on large research projects initiated and lead/leading
14. Report of activities and their result of extra-curricular activities – including involvement, organisation and leadership (if applicable) in societies of various kinds
15. Researcher's action plan and reflections on current progress and future actions
16. Publication and broadcasting in popular media (blogging, newspapers, TV, radio etc.)
17. Initiation of new research networks
18. Success of new research networks
19. Initiation of spin-offs
20. Successful of spin-offs
21. Knowledge of research results and models in society and businesses overall
22. Amount of invited keynote speeches in academic and popular media

## Conclusion

This paper is meant to complement the European *Commission's paper 'Towards a European Framework for Research Careers'. It provides Higher Research Institutes, political organisations and societies with clear skills and how to measure these for each of the four career stages. This enables a professional and objective career evaluation and clear career paths within academia.*

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