



Responsive and flexible career
development framework for researchers

REFLEX scenario workshop series

National scenario workshop in Slovakia

Outcomes report (October 2015)



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Preface

This report presents the outcomes of the scenario workshop that took place on October, 6th 2013 in Bratislava as a part of a series of workshops organized in five European countries within the REFLEX project. Researchers, their employers and representatives of organisations funding and supporting research met to exchange their experience, identify the main barriers of researchers' career development in Slovakia and discuss the ways how these barriers could be removed. SAIA as an organiser of the workshop, would like to kindly thank to all participants for their time, knowledgeable insights and fruitful discussions.

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Part 1: Background and purpose

1.1 About the REFLEX project

In today's ever changing world, systematic and focused career management is becoming increasingly important for both researchers and their employers. However, research organisations face the challenge of how to guide researchers through this process and how to enable them to become creative, critical and autonomous intellectual risk takers.

Currently variety of career development tools is available, some of them are formal and structured, others are based on informal and self-directed approach. But how to ensure that these tools, usually designed for the use in certain research environments, can be transferred to other contexts? And how to make them more reflexive to the increasing variability of career patterns and opportunities which arise with the creation of brand new jobs in the near future?

REFLEX - A two-year project joining forces of partners from five European countries, will address these challenges through the designing of intelligent career development framework based on the direct involvement of researchers, their employers, HR departments, EURAXESS Service Centres and other relevant actors.

What steps will we take to create this framework?

- The pool of existing career development tools and practices will be collected and analysed with regard to their applicability in different national contexts.
- Scenario workshops with researchers and other local stakeholders will be organised in every project country to learn about the country specific situation.
- A set of modules will be defined to describe certain practices, procedures and skills, which will be combined into the common framework and its country specific mutations. The framework will integrate and complement existing tools into the context sensitive models of career development services.
- Practical testing and implementation of the framework carried out within the project will help to spread these tools towards the researchers and other stakeholders.
- Training model scheme focusing on the development of career management skills for researchers will be designed, adapted, and tested to different national contexts.
- Mutual learning and feedback activities will ensure the coherence and continuous improvement of all project outcomes.
- To increase the transferability of this framework to other national and institutional contexts, European level workshop will be organised together with other EURAXESS networks and organisations representing the researchers and their employers.

1.2 Methodological remarks

1.2.1 What is a scenario workshop?

Central principle of the project activities is the bottom-up approach and direct involvement of researchers, their employers and other stakeholders who are engaged in the career development support. Project encourages this involvement through the specific activities such as organisation of scenario workshop in all project countries. These events will help identify issues of crucial importance for the career development of different groups of researchers in the respective country.

Our intention was to bring together researchers, funding institutions, state and private institutions and other stakeholders to reflect and discuss on the concept of career development framework, and what such a framework should include. Already identified career development practices and tools was debated, with the intention to enhance the existing tools and practices. The workshop also aimed to identify new tools and practices that could be included in a career development framework.

Aim of a scenario workshop include raising awareness of anticipated problems, helping to develop common definitions, facilitating discussions between different actors, examining the differences and similarities, as well as problems and solutions as perceived by the participating role groups; cultivating steps and solutions for foreseen problems and stimulating teamwork in coming up with solutions and/or recommendations for the specific problem. (See <http://participedia.net/de/methods/scenario-workshop>)

The original scenario workshops methodology was adapted according to the needs of the project and specific topic it addresses. Up to 40 participants including researchers and representatives of relevant stakeholder groups participated in each of the national workshops. The composition of the groups was based on the outcomes of the stakeholders mapping process and differed from country to country. However, the following groups were represented in each of the events: (1) Delegates of national organisations representing researchers, (2) Individual researchers (diversity of the individuals researchers with regard to gender, career stage, type of career pathway, sectorial background etc. will be ensured), (3) Researchers' employers from various sectors (public, private, NGO) and research funders, and (4) Researchers' career support professionals.

1.2.2 Main outline of the workshop

Workshop was divided into two main sessions: the morning session focused on the career blockers and its main aim was to explore the main factors hindering successful career development of researchers and its effective support. The afternoon session was centred around the possible solutions that could boost the researchers career development in Slovakia.

The morning session started with short presentation introducing the perspectives of different stakeholders groups. Presentations were followed by the short discussion that helped to outline the aim and set a common starting point for the whole group. Participants were then split into three homogenous groups (researchers, researchers' employers and research supporting organisations) and asked to identify blocker to career development for researchers from their perspective during the first group work session and to note the main outcomes on the flipcharts.

After the group discussion all groups presented the main results of their work to the plenary. Based on these outcomes the whole group identified nine main topics that should be addressed in the afternoon session.

The participants were regrouped into three mixed groups in the afternoon session. Each group selected one or two topics from the topics list created in the morning and discussed possible boosters related to them. The group session ended in the common plenary session where all groups summed up the outcomes of their discussions and the results of the workshop in general.

Workshop agenda

8:30 – 9:00	Registration of participants
9:00 - 9:15	Opening of the workshop <ul style="list-style-type: none"> • Katarína Košťálová, SAIA, n. o.
9:15 - 9:45	Introduction round
9:45 – 10:30	Researchers career development from three perspectives <ul style="list-style-type: none"> • Peter Plavčan, Ministry of Education, Science, Research and Sport of the Slovak Republic • Alexandra Bitušiková, Matej Bel University in Banská Bystrica • Veronika Trstianska, Slovak Association of PhD Students
10:30 - 10.45	Instructions for the group work
10:45 - 11:00	<i>Coffee break</i>
11:00 -12:15	Group work: Career blockers
12:15 - 13:00	Plenary discussion: presentation of the group work outcomes
13:00 - 13:45	<i>Lunch</i>
13:45 - 14:00	Instructions for the group work
14:00 - 15:45	Group work: Career boosters
15:45 - 16:30	Plenary discussion: presentation of the group work outcomes
16:30 – 17:00	Closing of the event

1.2.3 Selection of participants

The intention was to bring together researchers, funding institutions, state and private institutions and other stakeholders to reflect on and discuss the concept of career development framework, and what such a framework should include. Recruitment process started with the creation of the stakeholder database including public research institutions and public and private sector organisations involved in the research policy making, funding or promotion. Organisations representing the researchers and their employers were also included in the database. The contact persons at institutions were identified and invited to the workshop. Besides the stakeholders database, a list of possible invitees from among researchers community was created. Individual researchers were identified through recommendations, all of them have an excellent scientific record or have been actively involved in different initiatives related to career development of researchers. The response rate from invitees was relatively high and feedback positive. However, there were also some stakeholders that were difficult to reach. This was mainly the case of private sector organisations, regardless of whether the research and development was their core activity or only the one of the functional activities. In the end 28 out of app. 70 invitees confirmed their participation and 25 took part in the workshop.

Workshop participants list

	Name	Institution
1.	Marián Andričík	Pavol Jozef Šafárik University in Košice
2.	Alexandra Bitušíková	Matej Bel University in Banská Bystrica
3.	Ivan Cimrák	University of Žilina in Žilina
4.	Mária Čikešová	Slovak Rectors' Conference
5.	Denisa Čiderová	University of Economics in Bratislava
6.	Jana Gers	Ministry of Education, Science, Research and Sport of Slovak Republic
7.	Patrik Helmich	Ministry of Education, Science, Research and Sport of Slovak Republic
8.	Iveta Hermanovská	Slovak Centre of Scientific and Technical Information
9.	Peter Hronček	Matej Bel University in Banská Bystrica
10.	Zuzana Husárová	Comenius University in Bratislava
11.	Igor Chovan	Association of Research and Development Industrial Organizations
12.	Daniela Ježová	Slovak Academy of Sciences
13.	Bohunka Koklesová	Academy of Fine Arts and Design in Bratislava
14.	Terézia Lesayová	Slovak Liaison Office for Research and Development (SLORD), Brussels
15.	Zuzana Lisoňová	Comenius University in Bratislava
16.	Gergely Magyar	The Technical University of Košice

	Name	Institution
17.	Lenka Martinkovičová	Slovak Academic Association for International Cooperation
18.	Jana Merešová	Water Research Institute in Bratislava
19.	Marián Peciar,	Slovak University of Technology in Bratislava
20.	Peter Plavčan	Ministry of Education, Science, Research and Sport of Slovak Republic
21.	Bibiána Remiarová	Slovak Research and Development Agency
22.	Zdenka Rózová	Constantine the Philosopher University in Nitra
23.	Veronika Trstianska	Slovak Association of PhD Students
24.	Sandra Viglášová	Slovak Academy of Sciences
25.	Mário Ziman	Slovak Academy of Sciences

Part II: Outcomes and conclusions of the workshop

Following section includes the main outcomes of the group discussions carried out during the workshop. The report presents the key messages as noted by the participants on the posters and complements them with the short background comments.

2.1 Career blockers

The first round of group discussion focused on the following questions:

- What are the current career blockers for the researchers at different levels?
- What are the main blockers in relation to the existing system/lack of system for long-term career development?

Group 1: Researchers

Keywords:

PhD students:

Role of supervisors: Insufficient qualification of supervisors
 Unclearly defined research projects
 Missing soft skills courses
 Funding
 Lack of motivation to mobility

R2 and R3 levels:

Individual grants (from Slovak resources)
 Mobility with family
 Mentoring
 Closeness of academic sector
 Lack of targeted interdisciplinary (two main Slovak grant schemes do not have any calls for interdisciplinary research)
 Weak student (good one leave to abroad)

Blockers related to the career development of R4 researchers were not discussed in details since they were not represented in this group (but were represented in other two groups).

R1 (PhD students)

- Participants decided to discuss the main blockers according to the individual career levels. First they focused on the PhD students. They mentioned the lack of opportunities these students have to develop their soft skill (e.g. via courses). This is a long-term problem where only a minimal progress has been seen over the last decade. However, it was added that availability of such opportunities depends very much on the management of the particular university or faculty and there are institutions with a number of them. On the other hand some participants stressed out that even if

there are such possibilities, PhD students are not motivated to participate in them. They focus on what they are evaluated for and these are mainly academic skills and duties rewarded by credits. Participation in the activities developing their soft skills does not bring PhD student any benefit in this sense (it is not reflected in the evaluation of PhD students).

- The other issue discussed was the role and quality of supervision of PhD students. This issue was then raised several times in relation to other partial problems and questions. The supervisor was perceived as the key actor (and factor) in the development of PhD students. It was therefore mentioned as a problem that in many cases supervisors do not have very active approach and they do not pass information to their PhD students.
- The quality of supervisor's scientific work is also an important determinant of good supervision. PhD student should have an opportunity to be involved in the projects led by their supervisors. It is, however, not unusual that some of the supervisors do not have their projects and therefore do not have any possibility to involve their students in relevant research projects. This also restricts possibility of PhD students to get high quality publications – possibility to get support from the supervisors' grants for that can make many publications opportunities more accessible.
- Several objections were expressed towards the general content of the PhD study – some participants found it very general and they called for more clearly specified goals. The role of supervisor in definition of goals of the particular PhD project was also discussed but the opinions differed – while some participants would expect more active role of supervisors other would prefer to have more freedom and autonomy in that.
- Throughout the discussion about the content of the PhD study the question when the scientific education should start was also raised. Should it only start at the PhD level or should it be included on the lower levels of study already? The answer might vary according to the discipline. Many disciplines require certain level of scientific preparation (methodology) on the master level, other do not require it. Majority did not consider it necessary to incorporate more of scientific preparation on the undergraduate or graduate level.
- More focus should, however, be on the language preparation of PhD students. Some PhD students do not have sufficient knowledge of foreign languages and this is one of the barriers to their better international integration. So is the low mobility of PhD students. PhD students are not mobile enough. This then makes e. g. possibility to publish internationally more difficult. But should they be actively encouraged to take part in the mobility or not? The answer was not unanimous. The question of funding was raised – this seems not to be so urgent at this point but only because many students do not participate in the mobility and the competition for existing funding is not so harsh. This would, however, change if majority of PhD student would take part in the mobility.

R2 and R3

- The first barrier hindering the career development of R2 level researchers is unclear definition of postdoc in Slovak research environment. Legislation does not specify the postdoc category. This has some practical implications such as lack of individual grants or respective infrastructure (only some larger projects funded by SRDA - Slovak Research and Development Agency or Structural funds enable creation of quasi postdoc positions).

- On the other hand this is the time where researchers are expected to be mobile and gain experience. As many of the R2 researchers already have a partner or a family they have to face challenge of reconciliation of private life with scientific career. Many of them have partners who are also researchers which creates specific challenges for career development of both partners in such dual career couples.
- Lack of further guidance such as tutoring or mentoring was not considered as a major problem on this level: majority claimed that postdocs should be independent enough. They are mostly part of the research teams so they have an opportunity to learn from more experienced peers and there is no need to appoint any tutor. This is, however, not the case for all disciplines.
- Last part of discussion focused on the outreach of researchers outside the academia which seems to be main challenge for researchers at all levels. There is a very little cooperation with private sector. One of the reasons for the low motivation of researchers to get involved in such collaborations is the fact that such activities are not incorporated in the evaluation processes (not paid or rewarded in any other way).
- The question whether the researchers have enough support to outreach outside the academia was raised. There is a big difference between humanities and technical and natural sciences. According to one of the participants the Slovak market is too small (and this seems to be the case of the whole V4 region - Czech Republic, Hungary, Poland, Slovakia) to enable that e. g humanities graduates can also contribute in the technological sector. Neither the faculties nor the employees see these opportunities.
- There is not a demand for PhD graduates in the private sector – it seems like the employees do not realise the value they can get if they employ PhD graduate. They simply take them as too expensive workers and hire master degree students instead. On the other hand, many PhD graduates are not aware of what skills they can offer to the labour market.
- “Rigidity of the system”, as some participant named it, does not concern only the intersectoral cooperation. It also relates to the barrier in access to the leading positions that are occupied by the older organisation members. And it is also reflected in the lack of interdisciplinary collaboration.

Group 2: Policy making and research funding organisations

Keywords:

- Funding
- Lack systematic approach (to career development)
- Remuneration
- Failure of leadership (on management level, on supervisor level)
- Involvement in the ERA (networking with international researchers)
- Intersectoral collaboration (considerable barriers to the transferability of skills, perception of academia in the private sector)
- Support (targeted and useful)
- Information

Motivation: individual, institutional, collective

- Discussion started with the brief brainstorming resulting in the list of obstacles for researcher career development. These included: definition of goals, funding, insufficient support of career development, low involvement in European projects, low awareness, low motivation of private sector, lack of funding and missing motivation of institution to focus more on career development.
- Career development and its support is hindered by the systematic obstacles such as discontinuity in the formulation of goals and rules on both national and institutional level. Instead goals are many times determined on the basis of ad hoc decisions. Distribution of funding reflects this unsystematic ad hoc approach.
- Tools (both direct and indirect) that should motivate the participation of private sector in R&D are insufficient. As a result the intersectoral mobility is lacking. The legislative obstacles also hinder the involvement of people from private sector in the academic research. There are hardly any large scale projects based on the collaboration of academic and private sector.
- According to the representative of the business sector well designed set of indirect R&D support tools could help a lot: business companies can pay the excellent researchers and if there will exist system support through indirect tools the situation will improve. These tools should make it easier for business sector to get involved in the support of R&D and education, motivate, search for talents at the universities, get involved in the design of the study programmes etc.
- Reluctance to actively work on the systematic career development exists also on the individual level. Many researchers lack the personal readiness to focus on their own career growth and systematically develop personal skills necessary to achieve it. The status of researcher in Slovakia (remuneration and perception in society) also has strongly demotivating effect.
- One of the factors hindering the international career growth is also relatively low involvement of Slovak researchers in international (e. g. EU funded projects). There is a number of reasons for that but participants also pointed out that it is not easy for many Slovak institutions to get into the closed club of mostly Western universities that are being granted majority of the EU funds.
- Many Slovak research institutions are not able to offer researchers the same conditions they would have at top research institutions abroad. Together with other above mentioned factors this causes the brain drain from Slovakia.
- But even those who come back from abroad have to face difficulties. What support the institution offer to researchers after the return from abroad? They often have to face an aversion to new “imported” changes.
- Finally weak leadership at all levels (supervisors, managers, policy makers) is a major problem in the Slovak research environment.
- Participants also discussed what possibilities to support CDR their institutions have, which obstacles they try to remove and which they would like to but they cannot. Lack of funding was stressed as the key obstacle. CDR is not seen as a priority by decision makers and support from national resources is insufficient. There are no funding schemes for the targeted support CDR at the national level. National funding scheme for young researchers that would enable them to learn how to work in the project environment is also missing.

- Generally the national competitive funding mechanisms mostly rely on the structural funds. Traditional R&D funding schemes (SRDA, VEGA) are strongly underfunded.

Group 3: Researchers´ employers

Keywords:

- Lack of funding and instability of the research system
- Lack of readiness to see the diversity of various disciplines (arts and humanities cannot be judged according to same criteria as natural sciences)
- Lack of readiness to see the variety of career paths (not only classical linear career path)
- Lacking definition of „postdoc“ and lack of programmes for employing the postdocs
- Work overload (administration, public procurement, meetings, teaching) – lack of support services (including the services for international researchers)
- Gender barriers – no assistance to women returning from parental leave (reconciliation of work and family)

- The main obstacle for career development of researchers is lack of (both institutional and competitive) funding: more money in research would enable to change a lot. Besides that instability of academic environment and constantly changing conditions are other systematic factors hindering career development prospects of researchers in Slovakia.
- Many researchers suffer from the work overload. e. g. university teachers are expected to teach, write text books and study materials, prepare grant applications, administer the projects they have (which often means also active participation in very complex public procurement process) and do a research. There is a lack of all kinds of support services for researchers (which unfortunately is caused by the lack of funding) for both domestic and international researchers.
- HR departments should become more than just the administrative units. They should also be more active in the hiring process and/or provide some career related counselling. Heads of department currently have this role.
- Status of „postdocs“ is not explicitly defined in the Slovak research environment. The postdoc positions are missing, many researchers have to interrupt their careers after they finish their PhD (if they do not get a regular contract at the university). With the lack of postdoc opportunities it is also not easy for heads of departments and labs to make a decision who to let go (as it means that he or she will leave research with high probability).
- It is difficult for young researchers to get funding from national funding schemes. Many young researchers do not apply for funding from national funding schemes on their own because the evaluation criteria favour more experienced researchers. The schemes for young researchers are missing (there are some institutional but no national schemes for this category). Top talents grasp the opportunities existing abroad and leave Slovakia.
- Young women who return after the maternity leave face many difficulties and there are no mechanisms to support them.

- There is a lack of interdisciplinary or intersectoral mobility in Slovakia. This strictly disciplinary view starts in the education process - accreditation criteria do not allow for much interdisciplinarity – and continues also in research. On the other hand specificities of particular disciplines are also overlooked. All, regardless of their discipline, are evaluated according to the same set of criteria. According to some participants humanities and arts do not have a place in the system as it works now.
- The general perception of what constitutes researchers career is relatively narrow. Not everybody can have and wants an excellent publication record in CC publications. There is not a willingness to see a diversity. The readiness to accept diversity of career paths is very low: some people want to and could be good teachers and do not need top publications.
- PhD students are not sufficiently encouraged to take part in the international mobility. There are some institutions requiring international mobility during their PhD studies but this is not a general practice. Besides that, PhD students who take part in the international mobility have to face many difficulties and mobility is limited by other obligations they have on the faculty (first colloquiums, then going abroad, teaching duties). Dissertations are usually submitted in Slovak language and international consultants and opponents are not involved.
- The role of leaders and supervisors is crucial but not enough attention is paid to their development. How to develop them? How can they become team leaders? How can they learn to work with people? They should fulfil certain formal criteria (e.g. the PhD supervisor has to be associated professor or established researcher which should be a guarantee of both scientific and pedagogical quality). But in practice not everybody has a potential to be a good supervisor (even when he or she is a good researcher) – this is not reflected in the current system.
- Every university has internal directives and plan of the evaluation of researchers, requirements, tools and monitoring but it is another question whether and how these are implemented in practice. Do they also deal with the question how to evaluate supervisors?

Summary of the discussions

The poster created within the individual group discussion were presented and discussed in the plenary. The outcome of this discussion was a list of seven broad topics that refer to the main categories of career blockers and that should be addressed in the afternoon session.

1. Funding
2. Instability of system – ever-changing conditions and criteria
3. Personal aspect: leadership, human resources
4. Phenomenon of cultural inertia of the mind-set: rigidity of perception of scientific and career development
5. Lack of interdisciplinarity, intersectoral collaboration
6. Lack of support services (courses, projects)
7. Motivation (individual, institutional...)
8. Status of the “postdocs”

2.2 Career boosters

Group 1

Group 1 decided to focus on the **lack of support services for researchers**. They identified following possibilities how to deal with this obstacle.

Keywords:

- Senior mentoring
- Project centres
- Information flows (targeted information of researchers)
- Soft skills courses (integrated in the PhD programme)
- Services for social and cultural integration (mobility)
- Support services for mobility (national and institutional level)
- Employees trainings
- Expert support for the research teams
- Promotion of research
- Starting grants

Support services need to be developed on different levels: from departmental, through institutional to national level.

- (Senior) mentoring (buddy system) could be established at the departmental/faculty level. More experienced colleagues can help their younger colleagues with both research related and practical issues (e. g. with definition of research topic). This could also be an effective way how to gain feedback from more experienced colleagues, external experts.
- Project centres should be established/further developed at the faculty level. They should be able to provide any support related to the technical aspects of the project proposal preparation and project management (calls search, assistance with the proposal writing and project reporting, administrative support).
- The support services could also include expert services such as expert and technical assistance for research teams (administration, literature research, IPR, research popularisation, publicity of scientific projects).
- Collaboration and communication within the universities (between project centres on different levels) is necessary to improve existing or develop new services. It is necessary to actively support experience and good practices sharing, provision of information about existing practices. Centres should work as the information contact points providing targeted information for researchers.
- Soft skills courses should be offered to researchers by the institution (department/faculty). They should be integrated in the PhD programmes and available to all PhD students (as an obligatory part of the PhD study). They should be open also for the more experienced researcher (common courses for PhD students and more experienced researchers can be organised). Language preparation for employees should also be included.

- Needs survey should be carried out among the researchers: what services do they need? Which skills they would like to develop?
- The mobility support services should be further developed: different groups of researchers should be targeted (PhD students, experienced researchers, outgoing, returning and incoming researchers and their families). Possible model of Slovakia includes few information centres at regional level and network of university based contact points.
- Different collaborations can and should be established to develop effective services for researchers. These can include collaborations with other departments of the institution, city, region, etc. Membership of institutions in international research platforms can also help.
- Institutional funding schemes: Creation of funding mechanisms to support development of international collaborations activities (pilot activities)

Group 2

Group 2 decided to focus on two topics: (1) **leadership** and (2) **postdoc status and programmes** for them. They identified following possibilities how to deal with this obstacle.

Keywords

- Leadership: Defining the criteria – who can be, should be a supervisor?
- Institution – scientific council, art council
- Creating the conditions
- Postdocs: It is necessary that they gain experience outside of the university
- Funding tools in Slovakia
- Definition: the person with PhD working on the project (funded via project)
- Transparency in the publication of existing funding schemes

- Leadership is very important. But who is a leader? Someone who has an experience, leads the team, is able to get substantial funding for the team, is good manager, can distribute the tasks, coordinate people, can evaluate and motivate people. The leader should connect people, create conditions for cooperation, should prevent the creation of separate units at the department. Leader determines the direction of research and profiles the academic school. He or she is able to change the mindset (thinking) of the people.
- The problem of the leadership is – the leader does everything. Leadership therefore needs the support structure. Creation of excellent workplaces with all support services is necessary to effectively support the leaders.
- PhD supervisor is also one specific category of a leader.
- There are many leaders (supervisors) who do not have sufficient prerequisites to be leaders but they are expected to overtake leading positions. Not everybody can be a good leader and still can be a good at other things. How should we address this?
- Practical point of view: there should be standards and criteria for supervisors such as scientific production, how many people apply for a position under their supervision, how many PhD students they supervised. But is there a possibility to set up objective

criteria? What about the other positions – e. g. head of lab? Which criteria should they fulfil?

- On the other hand how restrictive should be these criteria? Is it possible to be a leader if someone is restricted in his/her decision making? The leader should have a possibility to formulate (to some extent) his/her own rules for the team and for the PhD students.
- How to help someone to become a leader?
- What should be the role of academic leader or supervisor? Primary goal of researcher (including PhD student) is not a career growth but the growth of knowledge.
- How should the management of research institution be selected? Is there a system of evaluation of individuals holding or aspiring for managerial positions? The existing procedures should be updated.
- Existing system of academic growth (habilitation and inauguration) creates a barrier for many potential academic leaders from outside academia or with shorter “academic history”.

Postdocs

- After the PhD students graduate there are no postdoc places (if we understand postdoc as grant fellowship holder).
- It is not inevitable that status of „postdoc“ is explicitly defined but it is important to create conditions for these people.
- Participants discussed whether researchers should be restricted to do a postdoc at their own institution. But in the end quality of the project should be crucial.
- Transparency of hiring process is crucial but Slovak universities are hesitant to open the hiring process as they often have a problem to get enough funding for their own staff, so they do not want to spend it on external.
- It is necessary to motivate research teams to integrate the postdocs in their teams. How to do that?

Group 3

Group 3 decided to focus on two topics: (1) **motivation** and (2) **interdisciplinarity**. They identified following possibilities how to deal with these topics:

Key words

- Motivation:
- The importance of role models
 - Interactive intergenerational workshops
 - Mentoring
- PhD study
 - credit system
 - strengthening the focus on research
- Searching for the career opportunities for PhDs outside academia
- Interdisciplinary formats focusing on the soft skills
- Framework conditions: accreditation, grant schemes

- Interdisciplinary committees at national research funding agencies (VEGA - Science Grant Agency and APVV - Slovak Research and Development Agency)
- Strengthening the active support for researchers

- Young researchers can be demotivated when they see the current situation of the researchers at Slovak research institutions (work overload, status in the society) and they do not want to follow similar career path. It is therefore necessary to show them how interesting the scientific work can be.
- One possibility how to motivate young researchers could be through encouraging of collaboration between generations. That would also mean giving them a bigger share of responsibility and funding.
- Specific tools how to encourage collaboration between generations:
 - Interactive (intergenerational) training (common trainings for young and more experienced researchers – to relax the hierarchical structure and allow more flexibility).
 - Mentoring: more experienced colleagues support younger ones (but this would be difficult in Slovak environment).
- How to motivate PhD students to overtake the responsibility for their own career development? There should be more emphasis on the scientific quality of their work not the credits collection. It is therefore necessary to rethink existing system of PhD study.
- How to motivate those who already got their PhD? It is necessary to involve them in larger projects.
- How to motivate research institutions to accept career development of researchers as one of their priorities? Include it among the criteria of the institutional excellence.
- In order to increase the motivation of PhD students it is necessary to show them also the career opportunities they have outside academia and change their mind-set so they do not consider it a failure if they do not end up in academia. If there would be more collaboration with practice, career guidance would work better.
- It is therefore necessary to encourage universities to collaborate with practice and identify the opportunities for their PhD graduates. Many of them do not know what opportunities exist for them outside academia (e. g. also social science can collaborate with public administration). Every university should appoint somebody who will be responsible for the cooperation with practice. Alumni clubs could be involved in that, too.
- Enabling PhD students to share the experience with their colleagues from other disciplines and universities and discuss about different career perspectives can be very fruitful.
- Traditional but strong motivation tool: praise (let everybody know about the success of your PhD students, researchers...)

Interdisciplinarity:

- How to evaluate and fund interdisciplinary research? And how to motivate people to get involved in interdisciplinary projects?
- Funding agencies can have a central role in supporting interdisciplinarity. Currently there are not many possibilities for funding such projects.

- There could be a new grant scheme funding interdisciplinary projects
- Interdisciplinarity could be supported via the existing schemes. E. g. interdisciplinary committee within the main funding schemes could be established (APVV, VEGA).

2.3 General Conclusions/Reflections on findings

Career development of researchers in Slovakia is strongly influenced by the systematic factors such as general underfunding of research or discontinuity on the formation of research environment. These factors could not be ignored during the workshop. Despite that workshop participants managed to avoid the pessimistic tone of the discussion and came out with many interesting ideas and constructive suggestions how to improve conditions for career growth of researchers in Slovakia and it is worth to deal with them further.

Not surprisingly was the main focus of many discussions was on the PhD students. The quality of their PhD study will determine probability of their success in the research but also influence their willingness to stay in research. Regardless of that PhD students also have many opportunities to grow and develop individually. However, as several workshop participants mentioned, they are not always ready to grasp them. Many opportunities, mainly those lying outside academia, seem to be unknown to them (and their institutions). Other, such as international mobility of PhD students appears to be not enough attractive for many. How to strengthen the motivation of PhD students to actively search for these opportunities is an interesting challenge that should not be ignored by the research institutions and research policy makers in general.

If there is a one thing that was mentioned the most between the factors influencing the quality of PhD training and research as such, it was certainly a role of supervisors or leaders in general in career development of researchers. Almost all groups touched this topic to some extent and the key influence of supervisor was emphasised by both young researchers and PhD students and by researchers who already have their own experience as supervisors and leaders. It therefore seems important to focus more on the quality of supervision and on the development of leadership in research in general. This could mean more strict criteria for the evaluation of supervisors but also (and mainly) more support and training for those who are or are expected to become supervisors or leaders.

One of the groups that could benefit from such training are young researchers' already holding their PhD. Especially as they seem to be a bit invisible category in the Slovak research environment. There is a minimum number of postdoc positions and very limited funding opportunities on the national level to create such positions. But also those young researchers who got a position in academia face the lack of opportunities to apply for a competitive funding.

Funding agencies therefore seem to be a crucial player in the creation of conditions for career development of young researchers. This does not only concern the amount of available funding but also the key according to which it is distributed and which is currently disadvantaging less experienced researchers. Funding agencies also have a strong potential to encourage certain patterns of behaviour via the definition of eligibility criteria. They could for example, as it was suggested by several participants, encourage interdisciplinary projects through the creation of the interdisciplinary committees within the SRDA and VEGA funding schemes.

More interdisciplinarity, more intersectoral collaboration and generally more openness towards any form of collaboration reaching out from the single discipline was also considered as a very important topic by the workshop participants. Changing the rigidity of the research environment is partially a task that requires system solutions (current rules do not always encourage such

collaborations), partially a challenge that can be addressed through better communication of different actors.

But more collaboration and knowledge sharing within the institutions or departments could also create considerable added value for career development of researchers. One of the very interesting ideas presented during the workshop was support of intergenerational cooperation between young and senior researchers (e. g. via common trainings or workshops). This suggestion reflected an observation that was made by the facilitator during the morning session wrap-up: it was interesting to follow how discourse was divided between young and senior researchers. While senior level researchers focused more on the general research environment (legislation, funding), young researchers reflected more on the topics on the personal or institutional level. Since researchers' career development requires action at all levels such complementary perspective was exactly what was needed. Maybe it could be an interesting model for the similar discussions at institutional level.

2.4 Documentations and links

NA

2.5 Future follow up

Outcomes of the workshop will feed into other project activities. A set of modules will be defined to describe certain practices, procedures and skills, which will be combined into the common framework and its country specific mutations. The framework will integrate and complement existing tools into the context sensitive models of career development services. Training model scheme focusing on the development of career management skills for researchers will be designed, adapted, and tested to different national contexts. Outcomes of the project will be discussed during the European level workshop that will be organised in Bratislava in November 2016.

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