

THE CHALLENGES OF KNOWLEDGE TRANSFER INTO POLICYMAKING. PRACTICES AND PERSPECTIVES IN ROMANIA

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Abstract: *Focusing on the current situation of research in Romania, the aim of this paper is to present several factors that emerge from the process of transferring knowledge into practice at a national level. Presenting and analyzing these potential factors is seen as a way of understanding whether research outcomes are taken into consideration when it comes to the development of educational policies. Results show that in terms of financial factors the Romanian research system is characterized by having a poor level of financing, because the demand for research and development and innovation (RDI) is low and has little or no connection with both the business sector and the public sector. When discussing about the political factor the main aspect is related to the quality of governance that is determined by the administrative capacity, which is still rather weak in comparison to other European countries. Furthermore, an analysis of the research projects funded in the educational sector in the last 5 years in Romania is presented in order to create a picture of how much has been done in Romania when it comes to the development of research outcomes that will later be used to support future educational policy.*

Keywords: *research production; knowledge transfer; knowledge mobilization; policymaking; Romania.*

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Introduction

The Romanian system of education and its connections with the public policy process are elements that this paper aims to describe and explain. In the recent literature, this connection is explained by concepts such as research mobilization and evidence based policy. Authors have elaborated on a status of quo of the educational research and how by these processes it can reach its true potential. The Romanian educational context and research activity will offer a support in analysing the challenges of the knowledge transfer into policymaking.

Research mobilization is composed of a set of processes with the clear objective of transferring the results to the society and it is supposed to have a significant impact. At the society level, the end-users of research such as practitioners, policy-makers, mediators will benefit from the research mobilization and are involved in a more effective dissemination of knowledge. It is expected that, through knowledge transfer, the policy-making process will be based on evidence (Levin, 2011; Ng-A-Fook et al., 2015).

Referring to the educational domain, research is “too small, not well organized, and the results are not effectively communicated or shared” (Levin, 2013, p. 15). Literature offers an important insight into the problems faced in the process of mobilization of research and the questions each part has regarding this process. Some aspects considered problematic in an efficient transfer of knowledge are the lack of training or engagement for researchers in disseminating the results, lack of communication between researchers and policy-makers, different languages used by researchers and policy-makers, lack of funding to sustain research and other activities, lack of human resources involved in the research activities. To these challenges specifically related to the transfer of knowledge, a number of issues connected to the wider field of research could also be added, which are to be found at both European and national levels. One such issue is related to the limited time allotted to research in higher education institutions, especially when considering the proportion of research, teaching and administrative activities. Another aspect refers to the prestige and trustworthiness of research, especially connected to research ethics, impartiality and scientific rigor. Finally, there appear to be few incentives for researchers to make their work available to a wider audience, including decision-makers, as the main motivators -- and job evaluation criteria -- refer to the number of citations, the number of publications, developing of specific skills or building professional networks.

When it comes to institutional strategies for knowledge mobilization Sá et al. (2011) found that academic leaders recognize knowledge mobilization as a desirable institutional mission, but few faculties have dedicated institutional supports and infrastructure for such activity. In general, knowledge mobilization occurs at their institutions, and some support is provided for it, but not in any comprehensive and systematic way.

Overall, there is no doubt about the fact that cutting-edge research should be seen as an important factor in developing policy papers and especially that the socio-economic sciences and humanities in particular provide us with important insights to support evidence based policymaking in Europe. Better policies are particularly needed in the current difficult social and economic climate (European Commission Directorate General for Research, 2010).

The use of research knowledge as a way to influence policymakers' decisions. A Western and Central European perspective

The role of research is in connection with fact that research for policy is not so much about providing answers as about changing the way questions are understood, so that people (researchers and policy makers, but other publics too) can begin to think differently, thus critically building the contours and contents of social problems (Milani, 2009).

In order to understand why research is needed to innovate in the educational sector, we mention the declaration released at the Lisbon European Council, which identified knowledge as the key to future growth, jobs and social cohesion in the European Union. We need policies that reinforce the knowledge-based society. Education and training are a prerequisite for a fully functioning *knowledge triangle* (education – research – innovation). In particular, education and training are part of the diverse cultural traditions and identities of countries and regions and they interact with a web of other policies. In these circumstances, there can be no simple prescription about what makes good policy or practice or about how transferable a policy might be. This makes it all the more important to know as much as possible about what works, for whom, under what circumstances and with what outcomes (EU Commission, 2007).

The use of research knowledge as a way to influence policymakers' decisions is seen from a dual perspective. On one hand, studies say that research production is not based on the real needs of the system or local context, but rather on international priorities, or they are imposed by the national or European financing organizations (Ion & Iucu, 2015), whereas some agree that even though we are currently living in a globalized world, we cannot

ignore the local factors that may play an important role in the process of research production (Kwiek, 2012).

When it comes to the use of knowledge at a regional level, as in the context of the Central European countries, studies show that a fair assessment of knowledge production in the region needs to refer back to historical legacies of the communist system and to two decades of its post-communist transformations (Kwiek, 2012). In connection to the Central European higher education struggle to keep up with those from the Western European countries, it is important to put a stress on one main important factor: the economic environment. Therefore, Central European higher education lags behind when it comes to economic competitiveness and the consequences can also be seen in the research area where very few companies involved in research, development, and innovation choose to invest time and money in order to obtain clear and relevant data.

Also at a regional level, Temple (2003) presented the case of some Western countries in comparison with some transitional, post-communist countries. He compared the relationship between educational research and educational policymaking and concluded that both in the West and in the transitional countries, policymakers look to educational research to provide immediate answers to practical questions. This assumption on the role of the research outcomes leads to a shared misunderstanding about what educational research can do (op. cit, p.226).

The state of research in Romania. Main factors influencing the current situation

Several researchers (Kappel & Ignat, 2012; Lupei, 2012; Singer, 2013; Barbu, 2014; Ion & Iucu, 2015) have investigated the state of research in Romania and their general interest was on presenting the strengths and weaknesses of this field. Therefore, Kappel & Ignat (2012) claim that, in Romania, research faces difficulties that are related to the fact that both theoretical and applied research do not engage in dialogue with each other and that they are rather based on flows of communication, information or knowledge that takes the form of a vertical transfer from science to technology. Moreover, the authors say that the quality of applied research is still unaddressed in Romania, and aspects of research relating to design and micro-production are not financed by the state.

Further aspects in the field of Romanian research were identified and are both positive aspects, such as the development of Romanian research strategy in line with the European Union framework and national research-development

plans, and negative aspects as the fact that the outcomes are below expectations (Lupei, 2012).

Further aspects in the field of Romanian research showed that the focus shifted from the symbolic use of research results to a policy based on evidence. Other aspects identified are related to the fact that the transparency policies promoted by the Romanian higher education system are still vague and “mapping” mechanisms must be implemented, as well as there being fair opportunities to access research funds and infrastructure (Ion & Iucu, 2015).

In addition, when dealing with factors influencing the current situation of research in Romania, the present study presents several factors that are related to financial, political, bureaucracy, and human resources aspects.

Regarding **the financial factors**, the Romanian research system, due to underfunding of research, especially the poor organization of the system and inefficient allocation of funds, is placed at the bottom of the EU ranking. Current research funds are not yet able to sustain a competitive knowledge economy. An important cause of the poor performance of Romanian research is the poor level of financing.

The poor investment in research activity has a long history because the percentage of Gross Domestic Product (GDP) from the state budget for research in the communist period was one of the lowest in Europe. Whereas in 2013 Romania allocated 0,25% of GDP to research, the European Union average was 0.75%. But the situation registers a slight increase, as a percent of 0,31% of GDP was allocated in 2014, a percent of 0,31% of GDP in 2015, whereas in 2016 the budget is estimated to reach the amount of 746,6 billion, which represents 0,36% of GDP. Still, the percentage is below the minimum of 1% established by the national education law (2011) and the percentage of at least 3% established by the European Union. The state budget for research is therefore undersized.

On the other hand, the demand for research and development and innovation (RDI) is low and has little or no connection with both the business sector and the public sector. Accordingly, research is not considered a central factor in the social and economic development in Romania as reflected in documents issued by the Romanian Government (Romanian Government, 2014).

The very low business interest in research can be explained by the low investment and by the fact that only one third of the R&D business expenditures are devoted to activities performed by universities or research institutes (European Commission, 2015).

Moreover, the **political factor** plays an important role as it can influence the policies and the resource distribution in order to support research production. The current situation as one could observe from the general behavior and discourse in politics is that there is little interest in research, development and

innovation (RDI) at the level of central governance, due to a poor understanding of the mission of scientific research. RDI remains absent from the political discourse on how to achieve sustainable growth in the aftermath of the recent crisis, in contrast to the high priority given to this topic worldwide and in nations competing with Romania (The World Bank, 2012). As mentioned above, the political factor plays an important role in developing a coherent strategic framework and set the measures for this domain to enlarge and reach its' potential.

The progress made by the government to harmonize its policies (for the period 2007-2013) with the European regional policies has been made especially by developing the National Strategic Reference Framework 2007-2013 (NSRF). The Framework is based on the National Development Plan for 2007-2013, and is developed as a tool to guide the use of national, European Union and other funding sources available to Romania, justifying and prioritizing public investments related to the European economic and social cohesion policy and defining Romania's multi-annual strategic planning and financial programming (Government of Romania, 2007). The Romanian strategic RDI framework for the policy cycles 2014-2020 aims at reaching in 2020 the critical mass of researchers needed to turn RDI into a factor of economic growth, by ensuring rapid, qualitative and sustainable development of the human resources. It also aims at developing research organizations that are capable of becoming regional and global operators, by stimulating the defragmentation of the RDI system. It also focuses on resources and on encouraging public-public and public-private funding of science and assessment of its impact throughout new models of financing in order to stimulate the knowledge mobilization. Analyzing the Romanian strategic RDI framework for the policy cycles 2014-2020, we could identify some threats that are related to the research areas mentioned in this document and one of these threats is the absence of educational research seen as a priority research area. Some of the research areas included in the Romanian strategic RDI framework for the policy cycle 2014-2020 are: bio-economy, information technology and communications, space and security energy, environment and climate change and eco-nano-technology and advanced materials.

Overall, firstly and most significantly Romania is affected by the **quality of governance** that is determined by the administrative capacity, which is still rather weak in comparison to other European countries, by poor institutional coordination and fragmentation, frequent legislative and institutional changes, and insufficient policy capacity in terms of policy design and implementation (Curaj, 2015).

At a legislative level, Romania made significant effort by developing the researcher's statute, by developing the Romanian law no.319/2003, which covers general requirements for recruitment in RDI and describes some rights and obligations of the personnel working in publicly funded institutions.

The statute describes the activity of the personnel, which involves participating in knowledge technology transfer in all economic and social domains and capitalization of their own research results. The law also states that researchers must receive support in their professional development in accordance with the law so that they can provide good results and contribute to the development of improved performance.

In the Government ordinance no. 57/16.08.2002 regarding scientific research and technological development, it is stipulated that the Romanian Government elaborates policies based on research activities. Therefore, formally, the connection between knowledge and transfer of knowledge is recognized, but it still seems to be missing an organized and legislative underlying framework for the research outcomes to find their correspondent in private companies especially in the field of education (Popa, 2012).

Other issue worth illustrating as a factor that hampers the development of research in Romania is **bureaucracy**, especially one for carrying out research projects. For example, tenders for procurement take months and the final sum is sometimes higher than initially planned. A study shows that 35% of researchers in Romania consider that bureaucracy in their institutions is preventing them from operating under normal conditions, while 30% believe that government helps them (Florian, 2006).

Popa (2012) argues that bureaucracy might stay in the way of this transfer, while Kappel (2012) brings into attention some relations in research that suffer of lack of analysis (p.1):

- There is no dialog between fundamental research and applied research, but mainly a flux of communication based on transfer of information.

- The connection with technological transfer.

- The quality of applied research is a matter difficult to understand in Romania, which implies an interference with the design stage and micro-production. The government does not finance applied research in other European Union countries. The author makes a remark that many of the National Institutes of Applied Research are closer to design than to scientific research.

- The scientific community and its members' perspective on research: the author is concerned about the fact that the actual way of thinking of the academics and researchers might endanger the evolution of research.

Another factor that may be responsible for the low profile of the RDI sector at a national level is **the diminishing number of human resources involved in the research activities**. The number of researchers at the end of 2011 was of about 42 263 researchers, of whom 25 489 (60.3%) were researchers, and 14 621 PhDs (of whom 46.5% were women) (Researchers' Report, 2013). According to European data, in 2013 there were 18 137 researchers in Romania (8 850 in Science, Engineering and Technology, 4 013 in Medicine and Agriculture and 5 274 in Social Sciences and Humanities), with only 9% junior researchers (debutant, doctoral level or equivalent), compared to 18% at the European level (Idea Consult, 2013).

Furthermore, the drastic reduction in funding for most research programs and the long-term under financing had led to a substantial brain drain, Romania becoming one of the largest scientific Diaspora of the European countries, with an estimated 15 000 researchers (The World Bank, 2011, p. 21).

Regarded to quality of researcher's activity, it is expected from researchers to provide good results and be an active part of improving performance in education. This expectation is in close connection with a need of "solid expertise and a new academic researcher's profile" (Ion & Iucu 2015, p 12).

In addition, in order to achieve high quality human resources, we must look deep into the gap that exists between researchers and policymakers. Frequently, it has been underlined that there is a disconnection between the researchers' and decision-makers' expectations and that researchers believe that research activity is less institutionalized and lacks sustainability and quality as a result of a lack of financial resources (op.cit, 2015, p 13).

Still, measures to improve researchers' funding opportunities were put into practice. As an example, there was massive support for doctoral and post-doctoral schools through the Sectorial Operational Program "Development of Human Resources". Starting from 2007 until 2013 there were 12 000 PhDs and 2 000 Post-docs that have received a monthly scholarship of EUR 420 and mandatory mobility abroad was supported through the projects (Researchers' Report, 2013).

Methodology

In an attempt to answer the research questions at the heart of this paper, namely what is the state of research in Romania and what aspects influence it, we chose a mixed methodological approach, comprising both quantitative and qualitative data, gathered through document analysis and statistical data. Data collection based on document analysis was done through critical assessment of primary sources such as existing literature in the field, scholarly articles, policy, legislation and official documents or reports. Statistical data was gathered through an analysis of educational research

projects funded or developed in the past five years in Romania by the two main research and funding institutions, the Institute of Educational Sciences (IES) and the **Executive Agency for Higher Education, Research, Development and Innovation Funding** (UEFISCDI).

IES the is a national institution for research, development, innovation and training in the fields of education and youth and it is under the authority of Romanian Ministry of National Education and Scientific Research (MENCS) and UEFISCDI is a public body of the Central Administration under the ultimate authority of Romanian Ministry of National Education and Scientific Research. While IES has implemented research projects developed by its own experts, UEFISCDI manages calls for researchers who want to develop research projects ensuring the implementation of the National Strategy for Research Development and Innovation through the *Human Resource Program* (Research projects for the stimulation of the funding of young independent research teams (TE) call and Postdoctoral research projects (PD) call) and the *IDEAS Program* (Exploratory research projects (PCE) call).

In order to obtain the statistical data, we created a database of all research produced and financed in education in Romania from 2011 to 2014 by the above-mentioned institutions and ran a search based on key words (for example, education, school, university, teacher, student, learning, and so forth). This was followed by a systematic search of projects placed at the intersection of education and other fields, which led to a more comprehensive list. Finally, taking into account the specificities of each research project included, we were able to create labels that encompassed priority lines of research:

- ✓ Social and psychological dimensions of education: including, but not limited to, graduates' employability, education and society, learning styles, motivation, performance or emotional intelligence.
- ✓ Curriculum: including, but not limited to, introducing new programs, changes in the curriculum, curricular reform, and competences as learning outcomes.
- ✓ Quality assurance: including, but not limited to standards, program evaluations, and external and internal quality assurance mechanisms.
- ✓ Research production and transfer: including, but not limited to, research brokering, decision-making in education, knowledge-transfer, linking research, policy and practice.
- ✓ School management: including, but not limited to, professional networks, institutional challenges, investment in education, management.
- ✓ Teaching and learning: including, but not limited to, e-learning, new learning environments, teacher training, teaching and learning strategies)

Moreover, we took into account the different levels of study addressed by these educational research projects, ranging from primary level, to primary and secondary levels combined, higher education, research, and teacher training. We also included a label comprising more general topics, which are not aimed at a particular level of study. However, it is important to mention, this criteria functioned more as a guideline, rather than a prescription, each item being analyzed in its own terms.

Our research started at a general level and gradually shifted focus from a conceptual analysis in relationship with three different dimensions - international, national and institutional - towards a specific unit analysis, namely priority lines in educational research at national level.

Results

Regarding the number of research projects implemented from 2011 to 2014 that are connected to the educational sector, we could identify 22 projects implemented by the Institute of Educational Sciences and 50 projects implemented by the UEFISCDI. The priority line of research could be seen as a main indicator regarding researchers' interest in the field of education.

While the priority line of research indicates the general field, it is important to notice the high interdependence between social sciences and humanities, as most times one project could encompass more than just a singular field of expertise, with no clear demarcation or boundary. As the concept of boundaries in social sciences has developed in relation to social and collective identity, class, ethnic or gender inequality, or communities and national identities (Lamont & Molnar, 2002), there has also been a particular focus on professions, science and knowledge. Instead of seeing boundaries as borders, divisive and exclusive of other aspects, some authors consider boundaries between different fields as means of communication, stressing out their importance in "facilitating the circulation of knowledge and information across social worlds" (Bower & Star, 1999, Star & Griesemer, cited in Lamont & Molnar, 2002). Starting from this assumption, the article presents a statistical description of research projects that reflect this interdependence and the attention given to the educational field, as a whole, in comparison to the so-called "hard sciences" (that is mathematics, physics and so forth).

Table 1 Priority lines of research

Priority lines of research	No. of projects
Social and psychological dimension of education	25
Curriculum	15
Quality assurance on education	7
Research production and transfer	11
School management	2
Teaching and learning	9
School management	3

As presented above, the great majority of national research projects focuses on the social and psychological dimension of education, on curriculum or on the process of quality assurance of the educational system, having an interest in the presentation of the state of the educational system.

Regarding the levels of study, the projects focus on the following levels:

Table 2 Levels of study

Levels of study	No. of projects
Primary only	4
Primary & secondary	10
Higher education	16
Teacher training	2
Research	10
General	30

When analyzing research dedicated to specific levels of study, the higher education sector appears to be prevalent, only surpassed by research addressing the educational system in general, at all levels, mostly connected to the social and psychological dimensions of education. Overall, there are only 72 education-related research projects out of approximately 5,000 projects submitted for funding in all fields, from 2011 to 2014, meaning only 1.44% of the total number of projects (submitted and/or funded) pertain to the field of education.

There is no doubt about the relevance and importance of these studies, but a question arises. This relates to the use of the research results, mainly on how these results manage to reach policymakers and what are the mechanisms of dissemination used in order to persuade policymakers to use the results in

order to develop educational policy based on evidence. Given this apparent preference for more general research topics, one could question whether another barrier in transferring research results to practice could stem precisely from this lack of specificity, which makes it difficult for researchers to disseminate their results to a specific audience, and for decision-makers to use the results in informing policy.

Moreover, because the importance of research outcomes has not been evaluated and its importance is not considered a study subject, there is little interest in developing educational policies that are based on research outcomes. The same situation is presented in the literature that asserts political decisions about social policies are rarely the direct outcome of social science research. They are more usually the result of conflicting pressures by social actors – entrepreneurs, workers’ organizations, religious authorities, special interest groups, and the media (O’Dwyer, 2004).

Conclusion

The focus of this paper is centered on showing the factors which are more likely to influence the research utilization in policy-making in Romania. The factors are closely related to financial, political, bureaucracy and human resources issues and are a good indicator of the state of the Romanian RDI system.

Research production in Romania has slightly increased, both in a qualitative and in a quantitative way. Yet, Romania is considered a country with a chronic underinvestment in research, in which the number of researchers is relatively low. The RDI system still has problems in creating an attractive research career mainly due to the poor investment. In Romania, the budget allocated for the RDI sector is almost 20 times lower than the European average. In these circumstances, it seems that the RDI sector is not considered a central factor of economic and social development.

In addition, the RDI system fails in generating good practice examples in transferring research results into the social and economic field. However, in spite of the poor investments and the lack of human resources capital in the research area, the RDI system plays a significant role in empowering universities, institutes and research teams that have a clear international visibility in becoming poles of excellence.

Popa (2012) makes a relevant point in discussing the importance of fundamental research in developing societies and economics and brings to discussion actual trends in research and its connection with society. He

mentions that knowledge transfer is possible when using diverse methods as common implementation of research, development and innovation projects and services, “spin-off” creation, common activities of marketing and knowledge, collaboration with education programs, initial and continuous training.

The Government of Romania shows interest in developing the RDI area by providing legislative support through the launch of the *National Research, Development And Innovation Strategy* that aims at reaching the European average for the basic indicators describing the structure and performance of the RDI system, and intends to focus on niche areas, where Romania would have the critical mass and the performance level needed for leadership. Overall, the Strategy sets the scene for the development of a real opportunity to create a knowledge-based economy that is competitive at the global level. Deriving from the current research, some ameliorative directions could be further investigated in order to respond to the challenges identified. These could be ensuring an increased predictability and security for advancing in the teaching and researching professions, together with reaffirming their professional prestige, while finding the right balance between teaching and research in higher education institution, encouraging young researchers to develop relevant careers in research, “translating” research results to the general public in order to increase its relevance, or increasing trans-national cooperation in research in order to maximize access to resources.

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