Foresight in Education and Training

Romanian Higher Education Modernization Agenda

Prof. Adrian Curaj, PhD

ETF, Torino, 8 March 2012
Foresight and Policies and Strategies Development for Vocational Education and Training: Tools and Added Value in the Context of Transition and Developing Countries
Outline

• Introduction
• Romanian Higher Education 2025
• “Innovation” and Creating new capabilities
• Further projects
• Concluding Remarks
**Introduction**

Main foresight projects

<table>
<thead>
<tr>
<th>Type of project</th>
<th>UEFISCSU /UEFISCDI role</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Foresight exercise in Science and Innovation in Romania</strong> (2005-2006)</td>
<td>National Coordinator</td>
</tr>
<tr>
<td>The elaboration of the National Strategy for Research, Development and Innovation 2007-2013</td>
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<tr>
<td><strong>Healthy and Safe Food for the Future</strong> (2007-2009)</td>
<td>FP6 Partner</td>
</tr>
<tr>
<td>A Technology Foresight Project in Bulgaria, Croatia, Czech Republic, Hungary, Romania and Slovakia (FutureFood6)</td>
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</tr>
<tr>
<td><strong>Research Infrastructures: Foresight and Impact (RIFI)</strong> (2010-2011)</td>
<td>FP7 Coordinator</td>
</tr>
<tr>
<td><strong>Quality and leadership for Romanian Higher education</strong> (2009-2011)</td>
<td>National (Structural Funds) Coordinator</td>
</tr>
<tr>
<td><strong>For-Moldova 2012</strong></td>
<td>International Coordinator</td>
</tr>
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</table>
No. of Methods reportedly used in Foresight exercises (Keenan et al, 2006)
Introduction

Main foresight projects

Type of project

UEFISCSU/UEFISCDI role


The elaboration of the National Strategy for Research, Development and Innovation 2007–2013

National Coordinator


A Technology Foresight Project in Bulgaria, Croatia, Czech Republic, Hungary, Romania and Slovakia (FutureFood6)

FP6 Partner


FP7 Coordinator

Quality and leadership for Romanian Higher education (2009–2011)

National (Structural Funds) Coordinator

Forward visions on the European Research Area (VERA) 2012–2013

FP7 Partner

For – Moldova 2012

International Coordinator

R. Popper (2008)
Functions of Foresight for policy making (ForLearn):

- Informing policy;
- Facilitating policy implementation;
- Embedding participation;
- Supporting policy definition;
- Reorienting the policy system;
- Symbolic function.

Agenda settings/policy definition/implementation

Objectives of a Foresight Exercise a proxy for impacts (Keenan and Popper)

- Informing policy making processes
- Assisting the implementation of decisions
  Creating new capabilities
Romanian Higher Education 2025

Vision
„Romanian Higher Education 2025“

Values and institutional framework

Preferred image of higher education in 2025
„A world of …“

„for which we believe in …“

„and accordingly we act for…“

Action lines
Vision „Romanian Higher Education 2025“

1. Identification of relevant participants

Viral survey

1932 respondents nominated in rounds other 6353
Vision „Romanian Higher Education 2025“
Identification of topics of interest

Three brainstorming sessions:
- Students
- Professors
- Business representatives

Using i-Lab
Vision „Romanian Higher Education 2025“

Identification of topics of interest

Semantic analysis of the literature

Hundred of titles on higher education available in a structured library
Vision „Romanian Higher Education 2025“

Domains of interest

... HUMAN CAPITAL DEVELOPMENT
- Correlation with the labor market
- Life long learning
- Certification of professional skills
- Creativity, skills for life and entrepreneurship
- Inter-disciplinarity and flexibility of human capital

... KNOWLEDGE GENERATION
- Correlation of pedagogical and research activities
- Research universities
- Particularities of basic, engineering and social research

... BUSINESS ENVIRONMENT
- Universities and innovation clusters
- Public-private partnership for innovation
- IPR in university-business collaboration
- Innovation infrastructures in universities

... SOCIAL VALUES
- University as promoter of social values
- Accessibility of studies
- Universities and local development
- Universities and information society

THEIR INTERNATIONAL COMPETITIVENESS
- Internationalization of higher education
- Positioning on the global market of education
- Positioning on the global knowledge market
- European integration and national brand
Vision „Romanian Higher Education 2025“
Expert panels

May 2009 – January 2010
Elaborated
- Current Assessment
- Drivers of change 2025
- Stakeholders mapping

15 persons per panel
Vision „Romanian Higher Education 2025“
Debating the current assessment

8 October 2009

• 180 persons

• Parallel and plenary sessions
Vision „Romanian Higher Education 2025“
First version of the success scenarios

8-11 December 2009

- 3 days scenario workshop for the panels
- 6 international facilitators
Vision „Romanian Higher Education 2025“

The four scenarios

<table>
<thead>
<tr>
<th>University of life and career</th>
<th>Knowledge constellation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athenaeum</td>
<td>Blue ocean</td>
</tr>
</tbody>
</table>
Vision „Romanian Higher Education 2025“
Further developing the scenarios

7-10 cards from each scenario

8 cards describing the 2025 context

The jokers
Vision „Romanian Higher Education 2025“

Stakeholders contributing to the scenarios

Bucharest, 25-29 January 2010

A one day event for each panel

- 40 stakeholders

- “World cafe” combined with cards and role playing …innovation
Diversity with 3 examples

- **Inovatio**
- **Regio**
- **Scientia**
Diversity with 3 examples

- Inovatio
- Regio
- Scientia

28 policies by 9 panels
- Governance, leadership, management
- Research, Innovation and Intellectual Property Protection
- Academic Profession
- Regional and Local Development
- Knowledge Society
- Ethics and Social Values
- Globalisation / Internationalisation
- Qualifications and Competences
- Quality of Education
ELPHI 2.0 questionnaire

Dynamic ranking of policies’ impact
**ELPHI questionnaire – second round**

<table>
<thead>
<tr>
<th>Politici propuse</th>
<th>Universitatea Inovatio</th>
<th>Universitatea Regio</th>
<th>Universitatea Scientia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Promovarea invatamantului superior romanesc in stranastate prin infintarea unei organizate cu caracter asociativ</strong> (Detalii)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impactul estimat * de catre respondenti in prima runda este: +++</td>
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</tr>
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<td>Va mentineti pozitia?</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Iustinarea atractivitatii internationale a invatamantului superior romanesc prin continut si conditi specific de desfasurare</strong> (Detalii)</td>
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<td><strong>Incurajarea cooperarii internationale in somenul invatamantului superior si ai secetarii</strong> (Detalii)</td>
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Seeds for the future

Vision „Romanian higher education in 2025“
Vision „Romanian higher education in 2025”

“A world of...”

“for which we believe in...”

“and accordingly we act...”
A world of...

Clusterele Măgurele nu este, așa cum ar putea sugera numele, doar motorul aglomerării tehnologice cunoscută astăzi ca Orasul lumii extreme, ci și pivotul fizicilor laserilor și aplicațiilor nucleare din Europa Centrală și de Sud-Est. CM a strâns împreună, într-un clustere de excepție interdisciplinară, mai bine de 40 de universități din întreaga lume, cu sute de profesori și cadre post-doctorale. Cei peste 1.200 de doctoranzi au coordonat primul clustere de cercetări cu o acoperire mondială, care a creatuță radical de la inițierea Hub-ului.

Institutul de Inovație din Timișoara este un sistem format dintr-o micro-universitate combinată cu un institut de cercetare și un centru de inovație care lucrează direct cu o largă piețe de dezvoltare și implementare. Instituția reședintă structura organizațională tradițională, abandonând funcționali și departamentele disciplinare și asumându-și ca principiu de dezvolta rezolvarea problemelor multidisciplinare. În programele de studii avansate (ITU) oferă studii de licență, cercetarea și pregătirea sunt integrate într-un raport cu realitatea, ca și cu procesele de facilitare și brokeraj ale transferului tehnologic. Programele multidisciplinare posibile sunt concepute în stagiile care permit atât păstrarea programului, cât și realizarea pentru învițători. Parcursul educațional este dinamic și pierdut modularizat, organizat tematic în jurul proiectelor de inovație pe termen lung, incluzând chestiuni teoretice și tehnice, dar și probleme de etică, de mediul, de monitorizare a pieței de profil, de management al inovației și al proprietoției intelectuale.

Institutul de Inovație Timișoara, 2025

Mă numesc Andreea. Am primit notă finală de la licența acela două săptămâni și am decis să încep o post-doctorală, deoarece și că mi s-a așezat la dispoziție, în jurul limbii, un sistem de "șanțurile" pe care mi-a oferit. Consider că am fost într-un stil de a cancella o parte din lumea academică, dar în practică lucrurile mărcă urme în domeniul cărui mă interesează (socioeconomia), mi-am dorit cel mai mult de a institui într-un centru urban mare (înlocuiți cu locația cosmopolită), dar aproape de comunități rurale tradiționale maghiare, (când ca să fac etnografie).

Criteriile imediate urmatorește ca prezentă un an nou și un an de cercetare și dezvoltare. Cu posibilitatea de creștere financiară de 50% pentru primul an și oferte de cursuri de limba maghiară de la începerea anului național. Criteriile, care ar putea să schimbe, au privit calitatea campanei (un indicator complex, crescut în funcție de interesul, femele, și prezentarea în numărul de credite), ci mai mult, în fine, am pus în evidență o serie de angajamente în prima parte a anului, cu ocazia venirei ale gradelor. Dacă instituții au decis de a ne căuta mai multe, așa ca să încercăm să o arătăm. Unealta surprize a fost că am...
Vision „Romanian higher education in 2025“

**Diversity** of institutions and programmes in response to diverse needs.

**Personalization** of educational in accordance with life and work paths.

**Transparency** as a mean for grounded decisions in a diverse environment.
Diversity
Diversity is the answer of the university system to the students' and employers' need for personalization. Diversity is determined by actual needs while institutional missions undertaken embody these needs.

Transparency
Transparency is a practical value. Without it, one cannot speak of diversity or personalization, or, just as well, of fairness, equal opportunities, honesty or the right to choose. Transparency is a tangible value: you feel it when, for instance, you manage to get fast a satisfying answer to a routine problem, whether administrative or even theoretical.

Personalization
Personalized learning is a consequence of the modern peoples' need for individuality; they no longer learn to occupy a present place but to define freely and dynamically their own roles!
Green Book 2015

First wave of 20 universities enter a three phase process:

1. Demonstrating improved connections to stakeholders
2. Plans for improve programmes and services
3. Institutional change

„A world of ...“

“for which we believe in ...”

“and accordingly we act...”
Lines of transformation

1. Personalization and diversity
   • Expansion of study programmes types (including short term programmes)
   • Diversification and of existing programmes
   • New sources for financing university research

2. Increasing institutional responsibility
   • Clear information for all stakeholders
   • Strengthening the reputation mechanisms

3. Improving capability of universities in relation with their missions
   • A stronger orientation towards private financing
   • Improving institutional capacity
   • Reform of legal status
A possible transition scenario

An approach in waves

– based on the interest expressed by the universities
– with a financial support for transition
– oriented towards autonomy, leadership and responsibility
– with the option of changing the legal status.
superior ar trebui să dezvolte și programe de studii de scurtă durată? Dacă da, acestea ar trebui să fie eligibile pentru finanțarea de bază?

Introduceti aici raspunsul dumneavoastra la intrebarea 1. Maxim 1000 caractere!

Pentru a vizualiza directia de actiune din carte verde Click aici!

Intrebarea 2. Considerați că ar fi oportună subvenționarea de către stat a unui sistem de credite (imprumuturi) preferențial pentru studenții care aleg programele de scurtă durată?

Introduceti aici raspunsul dumneavoastra la intrebarea 2. Maxim 1000 caractere!

Pentru a vizualiza directia de actiune din carte verde Click aici!

Intrebarea 3. Credeți că este oportunit firmelor care contractează servicii de formare profesională pentru angajați să îi ofere stimulente fiscale?

Introduceti aici raspunsul dumneavoastra la intrebarea 3. Maxim 1000 caractere!

Pentru a vizualiza directia de actiune din carte verde Click aici!

Intrebarea 4. Considerați că ar fi potrivit ca sistemul de învățământ superior să integreze și alte forme sau tipuri de instituții educaționale (cum ar fi organizatiile private pentru profit)?

Introduceti aici raspunsul dumneavoastra la intrebarea 4. Maxim 1000 caractere!

Pentru a vizualiza directia de actiune din carte verde Click aici!

Intrebarea 11. Considerați că universitățile românești au nevoie de un statut juridic, administrativ și fiscal diferit de cel din prezent? Dacă da, care credințe că ar fi principalele opțiuni pentru modificarea statutului actual?

Introduceti aici raspunsul dumneavoastra la intrebarea 11. Maxim 1000 caractere!

Pentru a vizualiza directia de actiune din carte verde Click aici!

Intrebarea 12. Considerați fezabilită garantarea creditelor contractate de universități prin un fond de stat?

Introduceti aici raspunsul dumneavoastra la intrebarea 12. Maxim 1000 caractere!

Pentru a vizualiza directia de actiune din carte verde Click aici!

Intrebarea 13. Credeți că este oportună recompensarea din fonduri publice a IIS care dezvoltă structuri organizaționale menite să crească ponderea donațiilor în totalul veniturilor universității?

Introduceti aici raspunsul dumneavoastra la intrebarea 13. Maxim 1000 caractere!

Pentru a vizualiza directia de actiune din carte verde Click aici!
Traveler into the future

Daca esti elev, student, parinte sau profesor “Calatori in viitor” este pentru tine.

Pe viitor, te-ai gandit cum ar putea arata facultatile din Romania? Ar fi universitati care vor face cercetare, stinta pentru stinta, sau universitati unde tinerii vor invata o meserie? Daca ai trai in ... viitor? In anul 2025, de exemplu, ce fel de facultate ai putea alege? Te invitam la un joc cu o tema serioasa: imagineaza-ti un sistem de invatamant de succes si universitatea pe care ti-ai dori-o in viitor, in Romania. Fii vizionar! Completeaza chestionarul si afla ce modele de universitati ar putea exista in 2025 in Romania si care ar fi cea mai potrivita pentru tine!

Participa la chestionarul on-line
Calatori in Viitor

Vino la conferinta "Seminte de viitor" si afla cum ar putea arata invatamantul din Romania in 2025. Printre vorbitori se numara dl. Marius Ghenea. Participarea este gratuita cu confirmare prealabila. Agenda evenimentului aici:
http://www.edu2025.ro/434/sect
ion.aspx/679

Calitate si Leadership - Conferinte
www.edu2025.ro
Calitate si Leadership pentru Invatamantul Superior
Romanesc: management universitar, politici in invatamant,
leadership in proiecte, workshopuri, seminarii, conferinte
international

http://www.facebook.com/Calatoriinviitor2025
“Innovation” and Creating new capabilities

Innovation

Innovation in the techniques and technology supporting foresight studies – Dynamic Delphi;

Internationalization of future studies/foresight/forward-looking (150 experts from all continents) – Bucharest Dialogues; Mutual Learning Workshops
Welcome to the Foresight Wiki
60 articles in English

Featured article

Systems Thinking for Foresight is a tentative to improve the Foresight practice with the introduction of ideas from systems thinking and suggestions of ways to work with systemic models. For the champions of systems thinking, Foresight triggers and is triggered by new situations, which are not solvable decision-problems, but can be recognized in the environment from their inter-linking elements. Causal relations are less significant, leaving many relationships to depend on the behavioral pattern of an appreciator who is also part of the situation. Boundaries become a matter of debate and dialogue, as situations occur dynamically and are never solved. Appreciation is placed in close nexus with anticipation and learning; this relationship is considered fundamental for the capacity to develop coherent narratives about the future. (more...)

In the news

The Foresight Wiki was officially launched on April 15th, during the workshop Jointly Shaping and Launching the Foresight Wiki, coordinated by Dr. Philine Warnke.

Active projects

Members of the FORwiki Community are invited to constantly check up the Active Projects page, and state their opinion on the new proposals. Stay active! Develop the platform! Be(e) a visionary!
The Current events portal presents worldwide events in the field of Future Studies & Foresight. In particular, all the Mutual Learning Workshops organised during the Quality and Leadership for Romanian Higher Education project, implementing the concept of Bucharest Dialogues, are presented in this section of the Foresight Wiki.

Members of the FORwiki Community are invited to state their willingness to participate in these events and cooperate for their organizing. If you have an idea for an event that you feel would be of interest for the Foresight Community of Practice, create a FORwiki page, list it under On the community's agenda, and try to create an alliance with other members of the FORwiki Community around it.

### Current events

<table>
<thead>
<tr>
<th>Event Details</th>
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<tbody>
<tr>
<td>Workshop: Systems Thinking for Foresight, Bucharest (Romania), September 23rd - 25th, 2009</td>
</tr>
<tr>
<td>Workshop: Scenario Building in Higher Education, Bucharest (Romania), October 30th - November 1st, 2008</td>
</tr>
<tr>
<td>Jointly Shaping and Launching the Foresight Wiki, Bucharest (Romania), April 14th - 16th, 2010</td>
</tr>
<tr>
<td>Workshop: Integrating Futures Methodologies, Bucharest (Romania), June 9th - 11th, 2010</td>
</tr>
<tr>
<td>21st Century Higher Education: Leadership, Innovation and Human Capital Development - Euro-Atlantic, Black Sea and Caspian Sea Area Studies, Bucharest (Romania), July 8th - 10th, 2010</td>
</tr>
<tr>
<td>Workshop: Foresight in the University, Bucharest (Romania), September 29th - October 1st, 2010</td>
</tr>
<tr>
<td>Workshop: Expert Knowledge, Prediction, Forecasting: A Social Sciences Perspective, Bucharest (Romania), November 19th - 21st, 2010</td>
</tr>
<tr>
<td>Workshop: Vision Building, Bucharest (Romania), May 3rd-4th, 2011</td>
</tr>
<tr>
<td>Workshop: Background Research for Scenario Building: Economic Clusters, Knowledge Economy and Development Strategies, Bucharest (Romania), May 27th-29th, 2011</td>
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### Crazy Foresight

‘Any useful idea about the future’, says Jim Dator – considered by many to be grandfather of the field – ‘should appear to be ridiculous’. Why? Because much of the future is going to be totally novel and has not been currently or previously experienced. Thus, anything useful that one can say about the future would appear to most people as quite crazy. Dator goes on to state, in his Seventh Law of Futures, that if futurists expect to be useful, they should expect to be ridiculed and for their ideas initially to be rejected. In a slightly different vein, Sardar’s First Law of Futures Studies states that futures studies are wicked. They are wicked because they deal with ‘wicked problems’ which are by nature complex, chaotic, interconnected with in-built contradictions and uncertainty. But futures studies are also wicked in the sense that they are playfully open ended (like a ‘scientific’ discipline they do not offer a single solution but only possibilities). Their boundaries, such as they are, are
Workshop: Systems Thinking for Foresight, Bucharest (Romania), September 2009
Workshop: Scenario Building in Higher Education, Bucharest (Romania), October 2009
Workshop: Jointly Shaping and Launching the Foresight Wiki, April 2010
Workshop: Integrating Futures Methodologies, Bucharest, June 2010
Workshop: Foresight in the University, Bucharest, September 2010.
Workshop: Expert Knowledge, Prediction, Forecasting: A Social Sciences Perspective, November 2010
Workshop: Collaborative Methods for Foresight: Delphi, Scenarios, and Models, April 2011
Workshop: Vision Building, May 2011
Workshop: Background Research for Scenario Building: Economic Clusters, Knowledge Economy and Development Strategies, May 2011
Workshop: Crazy Foresight, June 2011
Workshop: Trans-national Foresight for a Black Sea Higher Education Area, September 2011
Workshop: Strategic Intelligence for Extended Regional Coherence, August 2011
Blueprint of Doing Foresight in Universities

EXECUTIVE AGENCY FOR HIGHER EDUCATION AND RESEARCH FUNDING – ROMANIA

THE FOR-UNI BLUEPRINT
A Blueprint for Organizing Foresight in Universities

Coordinator:
ADRIAN CURAJ

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“Innovation” and Creating new capabilities


(EHEA principles; Learning and teaching; Quality assurance; Governance; Funding; Differentiation; Mobility; Foresight)
Further Projects (2012-2014)

- *Future of skills and professions*...graduates and labor market and link with the HE Vision 2025;
- running *Foresight exercises in 15 Romanian Universities*;

- a *Foresight exercise*, thee pillars, *on concentration universities (merging, clusters of excellence, consortia)*;
- Public Research in Romania 2030
- “Magurele 2030” with or without multiple lights

other plans:
- a forward-looking exercise: *Future of HC for Innovation* in the area1 and area2
- a *Foresight Exercise on Research Infrastructures* - regional
Concluding remarks

We use to point out on the Process Benefits
    Definitely we have to point out on the Product Benefits
    of foresight activities to fuel the next exercises

Enormous value of foresight, of looking into the future
    as a reflexive process
    ...we need also to ACT...translation into the policy documents
Policy Facilitation

A continuous learning process ... run a mix of small and big exercises
    to keep the momentum
And if it is about future of education

The impact of technology is huge....
Homo Zappiens
Homo Zappiens at Work

- Iconic Skills
- Multi-Tasking
- Processsing
- Discontinued Information
- Non-Linear Approach
Multi-Tasking

Listening to favorite music

Calling a friend

Doing Math homework

Surfing or MSN
Processing Discontinued Information

Zapping is the skill to construct meaningful knowledge from discontinued audio-visual and textual information flows

Channel 1

Channel 2

Channel 3

23 - 44
Non Linear Approach

Non-linear learning strategies demand a redesign of content: learning assets, objects to be accessed just-in-time

Linear

A → B → C → D → E → F

Non-linear

B → D
C → A → F
E → A → F
Mind Mapping
- Interpreting
- Everything is of same importance
- Object
- Book is static
- Always same end
- One way communication
- Reader is spectator

- Configuring
- Choosing different paths, opportunities
- Object and process
- Game is dynamic
- Multiple ends
- Games are communities
- Player is immersed
- Transportation of person
Different media lead to...

...different skills
Parents are good at reading...

According to a research at an English university, it doesn't matter in what order the letters in a word are, the only important thing is that the first and last letter is at the right place.

The rest can be a total mess and you can still read it without problem. This is because we do not read every letter by itself but the word as a whole.
...but less good at visual cues

Look at the chart and say the **COLOUR** not the word

- YELLOW
- BLUE
- ORANGE
- BLACK
- RED
- GREEN
- PURPLE
- YELLOW
- RED
- ORANGE
- GREEN
- BLACK
- BLUE
- RED
- PURPLE
- GREEN
- BLUE
- ORANGE

**Left - Right Conflict**

Your right brain tries to say the colour but your left brain insists on reading the word
Homo Zappiens learns differently...

Homo Zappiens
- discontinued info processing
- multi tasking
- non linear approaches
- iconic skills first
- connected
- collaborative
- active and shaping
- learning by playing
- instant payoff
- fantasy

Homo Sapiens
- conventional processing
- mono tasking
- linear approaches
- reading skills first
- stand alone
- competitive
- listening and reproducing
- separating learning and playing
- patience
- reality

Courtesy Marc Prensky
Be a visionary and innovate!

FORwiki bee a visionary

www.forhe.ro

Thank you!