The role of knowledge and learning for regional development

Simone Strauf
Kaunas, 5th November 2007
Central issues

- What are the key factors contributing to the positive economic development of a region?
  - paradigm shift in the regional development theories
  - concept of the “learning region”
- The importance of knowledge and learning for regional development
  - explicit and tacit knowledge
  - formal, non-formal und informal learning
- Examples for different kinds of learning
- Conclusion
  - how to initiate and improve learning processes in a region?
  - how can learning processes lead to a successful regional development process?
The current research status
History of the regional development theories

- Traditional location theories
  - Transport costs, work costs, ground rent
  - by Thünen, Weber, Christaller (1950’s)

- Polarisation theories
  - Sectoral areas of growth, agglomeration effects, availability of work and capital
  - Perroux, Myrdal, Krugman

- Territorial innovation models
  - Cluster approach, milieu approach, „learning regions“, network relationships, process orientation, capacity for innovation and learning
  - Porter, Morgan
Paradigm shift in regional development theories

- Basic paradigm shift in the regional development theory:
  - The theoretical perspective changes from an exogenous to an endogenous point of view.
  - The theories move away from production factors in a strict sense, to an interactive correlation between institutions and/or actors.
  - The focus of the theories shift from a static view of location factors to development processes.

- Today there is no longer the one and only predominating development theory. There is a range of diverse theoretical approaches that can clarify the success of regions and locations.
The predominant regional development strategies

- Endogenous regional development
  - Return to regional resources and skills show the necessity of using these, in order to generate development impulses and ideas.

"Learning Regions"
- Importance of knowledge, qualification and competence acquisition as a basis for the economical development of a region.

"Social capital approach"
- Relationships between people as a resource also for the economic development of a region and/or borough.

"Capacity Building"
- Setup of institutions, which use the organisational and individual knowledge of a region for (economical) development.
“To be effective in this increasingly borderless global economy, regions must be defined by the same criteria and elements which comprise a knowledge-intensive firm: continuous improvement, new ideas, knowledge creation and organisational learning.

Regions must adopt the principles of knowledge creation and continuous learning; they must in effect become knowledge creating or learning regions”

(R. Florida)
The concept of the learning region distinguishes between three basic approaches:

- **Human capital orientated approaches**, in which the development of a regional knowledge base, as well as coordination of further education opportunities in the region are the focus („learning by coordinating“).

- **Innovation orientated approaches**, in which learning by interacting as well as exchange of information and diffusion of innovations are the focus („learning by interacting“).

- **A policy network approach**, which deals with new cooperation processes through networks in the region („learning by networking“)
Knowledge and Regional Development

For regions as an overall system, innovation and innovative ability are the central requirement, so that they can adjust in the long term to the constantly changing endogenous and exogenous terms and conditions.

Only “learning regions” can survive in the future.

Knowledge and learning will be the central factors in the competitiveness of a location.
The importance of knowledge and learning
The way from knowledge to innovation

Source: after von Krogh 1995
Different kinds of Knowledge

▶ Explicit knowledge,
   ▶ contained in manuals and procedures and

▶ Tacit knowledge,
   ▶ learned only by experience, and communicated only indirectly, through metaphor and analogy

Source: Nonaka, Takeuchi 1997
## Characteristics of explicit and tacit knowledge

<table>
<thead>
<tr>
<th></th>
<th>Explicit knowledge</th>
<th>Tacit knowledge</th>
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<tbody>
<tr>
<td><strong>Context</strong></td>
<td>Connected with intellectual experiences</td>
<td>Connected with sensory experiences</td>
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<tr>
<td><strong>Transfer</strong></td>
<td>Communication of knowledge</td>
<td>Common application of knowledge</td>
</tr>
<tr>
<td><strong>Explicitation</strong></td>
<td>Documentation in words, numbers, pictures</td>
<td>Complex process of externalisation</td>
</tr>
<tr>
<td><strong>Adoption</strong></td>
<td>By common learning</td>
<td>By common experience</td>
</tr>
</tbody>
</table>

Source: Wilke 1997
The Process of Knowledge Creation

Source: von Krogh 1998
## Characteristics of Knowledge Creation

<table>
<thead>
<tr>
<th>Process</th>
<th>Level</th>
<th>Characteristics</th>
</tr>
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<tbody>
<tr>
<td>Capturing</td>
<td>Individual</td>
<td>• Individual search for “maximum grip”</td>
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<tr>
<td></td>
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<td>• No interest/attempt to share knowledge</td>
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<td>• Limited feedback from others</td>
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<tr>
<td>Transacting</td>
<td>Social</td>
<td>• &quot;Experts&quot; transacting their knowledge</td>
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<tr>
<td></td>
<td></td>
<td>• Minimizing risk of conveying non-legitimate knowledge</td>
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<td></td>
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<td>• Sharing based on expected returns</td>
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<td></td>
<td></td>
<td>• Knowledge shared is the end result of a “maximum grip” learning process</td>
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<tr>
<td>Bestowing</td>
<td>Individual</td>
<td>• Knowledge created in a supportive environment (&quot;maximum leverage&quot;)</td>
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<td></td>
<td></td>
<td>• Strong intent to share knowledge on the future</td>
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<tr>
<td></td>
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<td>• Feedback from others</td>
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<td></td>
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<td>• Integration of individuals into the team</td>
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<tr>
<td>Indwelling</td>
<td>Social</td>
<td>• “Equals” creating knowledge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Questioning and changing the basis for legitimate knowledge</td>
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<td></td>
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<td>• Sharing to help the team grow</td>
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<tr>
<td></td>
<td></td>
<td>• Attempts to “look with” not “look at” other team members</td>
</tr>
</tbody>
</table>

Source: von Krogh 1998
„If you use the classification of tacit and explicit knowledge, learning is first of all the transfer of explicit or tacit knowledge into tacit knowledge. It's a process which causes an inner personal change and leads to a more or less sustainable increase in competences and skills.“

(Source: Back et al. 2001)

→ Knowledge is the content, which is communicated by learning as a concrete process and activity
From Knowledge to Competence via Learning
Definitions of different kinds of learning

- **Formal Learning:**
  - Learning typically provided by an education or training institution, structured (in terms of learning objectives, learning time or learning support) and leading to certification. Formal learning is intentional from the learner’s perspective.

- **Non-formal Learning:**
  - Learning that is not provided by an education or training institution and typically does not lead to certification. It is, however, structured (in terms of learning objectives, learning time or learning support). Non-formal learning is intentional from the learner’s perspective.

- **Informal Learning:**
  - Learning resulting from daily life activities related to work, family or leisure. It is not structured (in terms of learning objectives, learning time or learning support) and typically does not lead to certification. Informal learning may be intentional but in most cases it is non-intentional (or “incidental”/random).

Source: European Commission 2001
Recognition of Competencies

1. The overall process of granting official status to competences, (this is *formal recognition*), gained either
   - formally (by awarding certificates) or
   - in a non-formal or informal setting (by granting equivalence, credit units, validation of gained competences);

   and/or

2. The acknowledgement of the value of competences by economic and social stakeholders (this is *social recognition*).

Source: European Commission 2001
Examples of the three kinds of learning
Main topics of formal and non-formal Learning

• Aneignung des explizitem Wissen durch formalisierte und nicht-formalisierte Lernprozesse
  
  – zielt primär auf die Vermittlung von explizitem Wissen
  – ist systematisch in Bezug auf Lernziele, Lerndauer und Lernmittel
  – und damit ein zielgerichteter Lernprozess
  – zwischen Lehrendem und Lernenden
  – der aber nicht zwingend personengebunden sein muss

  – Zertifizierung des Lernprozesses als Unterschied zwischen dem formalisierten und dem nicht-formalisierten Lernprozess
Formal learning: e.g. the educational system

Source: Benneworth 2006
Universities at the heart of the human capital upgrading process

Source: Benneworth 2006
Non-formal Learning in Regional Development

- classical events on job-related or private further education
- learning objectives differ in the learning intensity
- different kinds of learning processes

- besides of explicit knowledge, the dissemination of tacit knowledge is also important and intended
Informal Learning in Regional Development

e.g.: Knowledgemanagement Regional Development Switzerland

Network-Management

- Practitioner-Community
- Interest-Community
- Research-Network

by persons:
Mobilise + Networking

by persons:
Qualify

by Technics:
Knowledge-Infrastructure

- Share and exchange Knowledge
- New Knowledge

Knowledge ➔ Kompetences ➔ Innovation

Collect and deliver knowledge

Knowledge-Portal „Regional-Google“
Informal Learning in Regional Development:

e.g.: Exchange of experiences
<table>
<thead>
<tr>
<th></th>
<th>Informal Learning</th>
<th>Non-formal Learning</th>
<th>Formal Learning</th>
<th>Individualisation</th>
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</thead>
<tbody>
<tr>
<td>Exchange of explicit knowledge</td>
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<td>++/--</td>
<td>++</td>
<td>--</td>
</tr>
<tr>
<td>Exchange of tacit knowledge</td>
<td>+/--</td>
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<tr>
<td>Formalisation</td>
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Universities as a repository of knowledge in a Learning Region
### Universities and Regional Development

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<thead>
<tr>
<th>Formal Learning</th>
<th>Education and Learning</th>
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<tr>
<td></td>
<td>PhD-Studies</td>
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<tr>
<td></td>
<td><em>Job-oriented Education</em></td>
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<tr>
<td>Non-formal Learning</td>
<td>Further Education</td>
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<td></td>
<td>Conferences, Congresses, Meetings</td>
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<tr>
<td></td>
<td>Public lectures, speeches etc.</td>
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<tr>
<td>Informal Learning</td>
<td>Exchange of Experiences</td>
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<td></td>
<td>Alumni</td>
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<td></td>
<td>Mentoring-Programmes</td>
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Universities and Regional Development

Source: after Cooke (2004); in Benneworth (2004)
Conclusion
Requirements for universities and regional players

- Universities have more to offer than education and research
  - Updating skills of employees
  - Identifying and solving social problems
  - University expertise is needed in an increasingly large range of professional and political fields

- Research results have to be transferred into innovation processes, incorporation into regional action plans and programmes

- Take the universities seriously as a player and partner, mind map

- Using universities as a repository of knowledge
  - help the region to understand itself
  - gateway to global information to meet the needs of different sectors of the regional economy

- Creating a mechanism through which the resources of universities can be mobilised to contribute to the regional development process
Why is explicit and tacit knowledge important for the development of our region?

How can we create explicit and tacit knowledge in our region?

How can regional learning processes be developed?

How can regional learning processes be designed to contribute to a positive and sustainable regional development process?
„Stets sorge, daß das Volk ohne Wissen und Wunsch sei. Und sorge zugleich, daß die Wissenden nicht zu handeln wagen.“

Lao-tse, chinesischer Philosoph (um 300 v. Chr.)
“All men by nature desire knowledge”

Aristotle (384-322 BC), Greek philosopher Metaphysics, Book 1, Chapter 1

but

„There is much pleasure to be gained from useless knowledge.“

Bertrand Russell (1872-1970)