Cross-Border Innovation Competences: What future global entrepreneurs need to learn – insights from a European comparative study

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Ruhr West University of Applied Sciences
Hochschule Ruhr West
Ruhr West University of Applied Sciences

History
• Founded in 2009
• Public institution, regional development
• 2600 students, 60 professors and growing 😊
• Western Ruhr area (Bottrop, Mülheim)

Focus Areas
• Civil Engineering
• Business Administration - International Trade Management & Logistics
• Mechatronics
• Human-Machine-Interaction
• Business Information Systems
• Master Programme Business Administration
Business Information Systems@HRW

Focus areas
• Business Information Systems
• Process Management
• Supporting globally distributed workgroups
• Open Educational Resources
• IT-supported Innovation Management

E-Learning
• Supporting international education settings
• Cultural adaptation
• Standardization & Quality Management
• Mobile & Ambient Learning
• Innovative tools and solutions

Some of my previous projects
• Play4Guidance: Business Games for Entrepreneurs
• EAGLE: E-Learning in Public Administration
• Open Educational Ideas and Innovations (OEI2)
• Nordic Open Education Alliance
• OpenDiscoverySpace: OER for Schools
• OpenScout: OER for Management
Innovation

• “The process of translating an idea or invention into a good or service that creates value” (Business Dictionary, 2016)
• Key to global success and competitiveness
• Key to employment and employability
• Key to countries’ success in a global market
Innovation across Borders: Challenges

• How can be organize mutually beneficial collaboration across the globe?
  – Trust
  – Knowledge sharing vs knowledge protection
  – Closed vs open vs collaborative innovation

• What are the key competences for innovative people and organizations?

• How can we utilize e-learning to improve peoples’ innovation competences?
The Process: Born Global Innovation

- Mixing open, invitational & frugal innovation
- Starting innovation from the first idea
- Creating global partnerships
- Non-competing markets
- Enabling SMEs to create high impact
Play4Guidance

• Objectives
  – Play4Guidance aims to bring the world of education and training in close contact with the job market, in order to match school and university curricula to the market’s real needs.
  – Furthermore, the project aims to boost entrepreneurial culture in young Europeans and help young Europeans acquire the skills needed to create new businesses. This will potentially contribute to a reduction in EU unemployment.
  – In addition, P4G aims to identify essential business skills among target groups and target countries and collect them in the Great Common Denominator Matrix.
  – Play4Guidance produces an effective European tool able to support students and unemployed in developing basic math, economic, digital and entrepreneurial transversal skills with a strong focus on problem solving and leadership and will support various institutions such as guidance centres, job centres, SMEs, companies and universities in evaluating participant skills and guiding them through training and skill-building.

• Key Outcomes
  – Greatest Common Denominator Skills Matrix („Innovation Competences“)
  – P4G Business Game & Scenarios
# Findings: Play4Guidance Innovation Competences

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description of the competence</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Analytical Thinking</td>
<td>The ability to analyze problems systematically.</td>
</tr>
<tr>
<td>02</td>
<td>Business Acumen</td>
<td>The ability to discover opportunities and transform resources into performance.</td>
</tr>
<tr>
<td>03</td>
<td>Client / Service Orientation</td>
<td>The ability to meet the needs of both internal and external customers.</td>
</tr>
<tr>
<td>04</td>
<td>Commitment to Learning</td>
<td>The ability to actively pursue learning and develop competitiveness.</td>
</tr>
<tr>
<td>05</td>
<td>Communication</td>
<td>The ability to effectively receive and express information or feelings.</td>
</tr>
<tr>
<td>06</td>
<td>Conceptual Thinking</td>
<td>The ability to recognize patterns or trends in a problem.</td>
</tr>
<tr>
<td>07</td>
<td>Order and Quality</td>
<td>The ability to reduce uncertainty and to control quality.</td>
</tr>
<tr>
<td>08</td>
<td>Developing Others</td>
<td>The ability to help others make progress.</td>
</tr>
<tr>
<td>09</td>
<td>Empathy</td>
<td>The ability to understand and respond to the concerns of others.</td>
</tr>
<tr>
<td>10</td>
<td>Expertise</td>
<td>The ability to perform professional jobs.</td>
</tr>
<tr>
<td>11</td>
<td>Flexibility</td>
<td>The ability to effectively adapt to a variety of situations.</td>
</tr>
<tr>
<td>12</td>
<td>Influence</td>
<td>The ability to influence thoughts and actions of others.</td>
</tr>
<tr>
<td>13</td>
<td>Information Seeking</td>
<td>The ability to find and capture information to increase knowledge or find solutions.</td>
</tr>
<tr>
<td>14</td>
<td>Initiative</td>
<td>The ability to be a self-starter and to meet the challenge of higher level objectives.</td>
</tr>
<tr>
<td>15</td>
<td>Innovation</td>
<td>The ability to make something new and to improve performance.</td>
</tr>
<tr>
<td>16</td>
<td>Organizational Awareness</td>
<td>The ability to recognize the power relationships in organizations.</td>
</tr>
<tr>
<td>17</td>
<td>Personal Motivation</td>
<td>The will to succeed.</td>
</tr>
<tr>
<td>18</td>
<td>Relationship Building</td>
<td>The ability to build and maintain personal networks.</td>
</tr>
<tr>
<td>19</td>
<td>Results Orientation</td>
<td>The ability to set performance objectives, resulting targets and measures.</td>
</tr>
<tr>
<td>20</td>
<td>Self-Confidence</td>
<td>The ability to express oneself in a different / hostile situations.</td>
</tr>
<tr>
<td>21</td>
<td>Self-Control</td>
<td>The ability to manage one’s emotions under pressure or temptation.</td>
</tr>
<tr>
<td>22</td>
<td>Team Leadership</td>
<td>The ability to create a favorable environment and mobilize people to succeed.</td>
</tr>
<tr>
<td>23</td>
<td>Basic competences</td>
<td>Ability to apply basic knowledge needed for running a business.</td>
</tr>
<tr>
<td>24</td>
<td>Decision making</td>
<td>Ability to make decisions.</td>
</tr>
<tr>
<td>25</td>
<td>Personal determination</td>
<td>Ability and attitude to reach given objectives.</td>
</tr>
</tbody>
</table>
The Game

Market Analysis

- CURRENT SITUATION
- GENERAL VIEW
- PARAMETERS

Decision Making

- SUPPLY MANAGEMENT
- PRODUCTION MANAGEMENT
- MARKETING AND SALES MANAGEMENT
## Market Situation at Month 1 (JanP - Game Open)

### Supply Management

#### Results

| Raw material purchased from local supplier (kg) | 650 |
| Raw material purchased from foreign supplier (kg) | 0 |
| Total purchase cost of the raw material (Euro) | 9,750 |
| Stock inventory of raw material (kg) | 1,020 |
| Weighted average cost per unit of raw material (Euro/kg) | 15 |
| Purchase cost of packaging (Euro) | 8,250 |
| Stock inventory of packaging (number of packaging) | 7,000 |

#### Market Data

| Minimum price of the raw material accepted by the local supplier (Euro) | 14 |
| Exchange rate US Dollars/Euro (Dollars US/Euro) | 1.25 |
| Indicative price for the rental of a container (Dollars US) | 15,000 |
| Indicative price of the raw material from overseas supplier (Dollars US/kg) | 10 |
| Wholesale purchase price of packaging (Euro) | 2 |
| Retail purchase price of packaging (Units: Euro/Euro) | 3 |

### Rankings Position

<table>
<thead>
<tr>
<th>Total value of the company (Euro)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rankings Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
</tbody>
</table>
### Market Situation at Month 1 (JANP - Game Open)

<table>
<thead>
<tr>
<th>Parameter name</th>
<th>Parameter value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active interest rate (percentage)</td>
<td>0</td>
</tr>
<tr>
<td>Additional charge for post-pay payment of machines (percentage)</td>
<td>0.05</td>
</tr>
<tr>
<td>Expenditure on technology that is necessary for efficiency (Euro)</td>
<td>25,000</td>
</tr>
<tr>
<td>Annual expenditure on training (Euro)</td>
<td>10,000</td>
</tr>
<tr>
<td>Purchase cost of a machine (Euro)</td>
<td>30,000</td>
</tr>
<tr>
<td>Expenditure on technology that is necessary for effectiveness (Euro)</td>
<td>25,000</td>
</tr>
<tr>
<td>Interest rate liabilities (percentage)</td>
<td>0</td>
</tr>
<tr>
<td>Maximum number of products per unit of raw material (number of products/kg)</td>
<td>9</td>
</tr>
<tr>
<td>Minimum number of products per unit of raw material (number of products/kg)</td>
<td>7</td>
</tr>
<tr>
<td>Number of workers for a machine (number of workers)</td>
<td>2</td>
</tr>
<tr>
<td>Manual capacity (kg)</td>
<td>10</td>
</tr>
<tr>
<td>Capacity with machines (kg)</td>
<td>50</td>
</tr>
</tbody>
</table>

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**Supply Management**

**Production Management**

**Marketing and Sales Management**

**Overall Results of Management**

**Market Research**
Embedding the Game: Educational Scenarios

PLAY4GUIDANCE
A European Business Game to train and guide students and young unemployed on entrepreneurial, transversal and mathematical skills

“Making ends meet”
Business Operation Road Map

AUTHORS:
NKUA
Zacharoula Smyrnaiou, Michael Kostoglou, Evangelia Petropoulou

SCENARIO STRUCTURE:
3 Sessions

TIME:
10 hours

OUTCOMES:
- Understanding what a business is and how it operates
- Developing strategic plans to enable decision making
- Identifying the components of a business plan
- Developing competences
- Identifying the components of business operation
- Identifying the resources of information for each part of business operation
- Marketing of manufacturing products
- Making decisions based on constraints

INTRODUCTION:
The scenario is intended for both unemployed and university students who want to learn how to start and manage a new business. The scenario addresses the authentic situation of the current difficult financial state of several European countries and aims to train and guide users in managing a start-up business throughout an economic crisis.

The scenario was designed and developed in the context of the ‘P4G PLAY FOR GUIDANCE’ European project

http://play4guidance.eu/p4g-resources/

Prof. Dr. Jan M. Pawlowski
Training Innovation Competences: Findings

- Business Game + OER + Scenarios

- Business Games must be enriched by meaningful OER and scenarios

- Innovation competences are needed in many target groups but very different depending on the national / regional context

- Attitudes play a crucial role for innovators

- The Business Game could serve as a starting point for international entrepreneurs
Creating a Generation of Cross Border Entrepreneurs

- Joint Simulation Games
- Globally shared and local OER
- Common Cross-Continent Scenarios
  - Connecting students
  - Connecting cultures
  - Creating initial trust
  - Performing cross border idea development ("born global innovation")

- Creating a generation of collaborative innovators by
  - Building a common innovation environment (e.g. Slush)
  - Building a common virtual environment (e.g. www.idea-space.eu)
  - Building OER and Scenarios / OEP around innovation
Summary

• Innovation is the key success factors for individuals, organizations and countries
  – Innovation competences
  – Innovation attitudes
• Business Games can be meaningfully used for innovation training / education
• OER and OEP / Scenarios are necessary
• Basis for cross-border innovation
• Processes, competences and OER are available
• An ASEM Innovation Space could train, prepare and guide young innovators from Asia and Europe!
Thank you for listening!

Questions? Comments?
Web:
http://en.hochschule-ruhr-west.de/research/computer-science/institute-members/professor-jan-pawlowski.html

http://play4guidance.eu/
http://www.idea-space.eu/

E-Mail: jan.pawlowski@hs-ruhrwest.de