

Global Information Systems


Globalization Competencies in Information Systems

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A starting scenario



TeaCamp Study: What makes globally distributed teams successful in your field?

- Personal contacts
- **informal interaction**
- **whole team involvement for constant communication**
- **good management/manager**, strict one
- Deadlines
- **respect others opinions and feelings**
- **ICT competencies**
- information literacy
- knowledge management
- **effectiveness on intercultural situations** based on ones knowledge
- skills and motivation
- sending and receiving of messages that are accurate and appropriate



TeaCamp Study: What are the main problems you have encountered in working in a global team?

- Misunderstanding in goals
- very different characters and professionals which might find no consensus
- **sometimes lack of good language skills**
- **some types of collaboration are not well known and acceptable in national environment**
- **cultural problems**
- **historical conflicts**
- time difference
- concepts different interpretation
- **not enough communication**
- **different working methods**
- low motivation

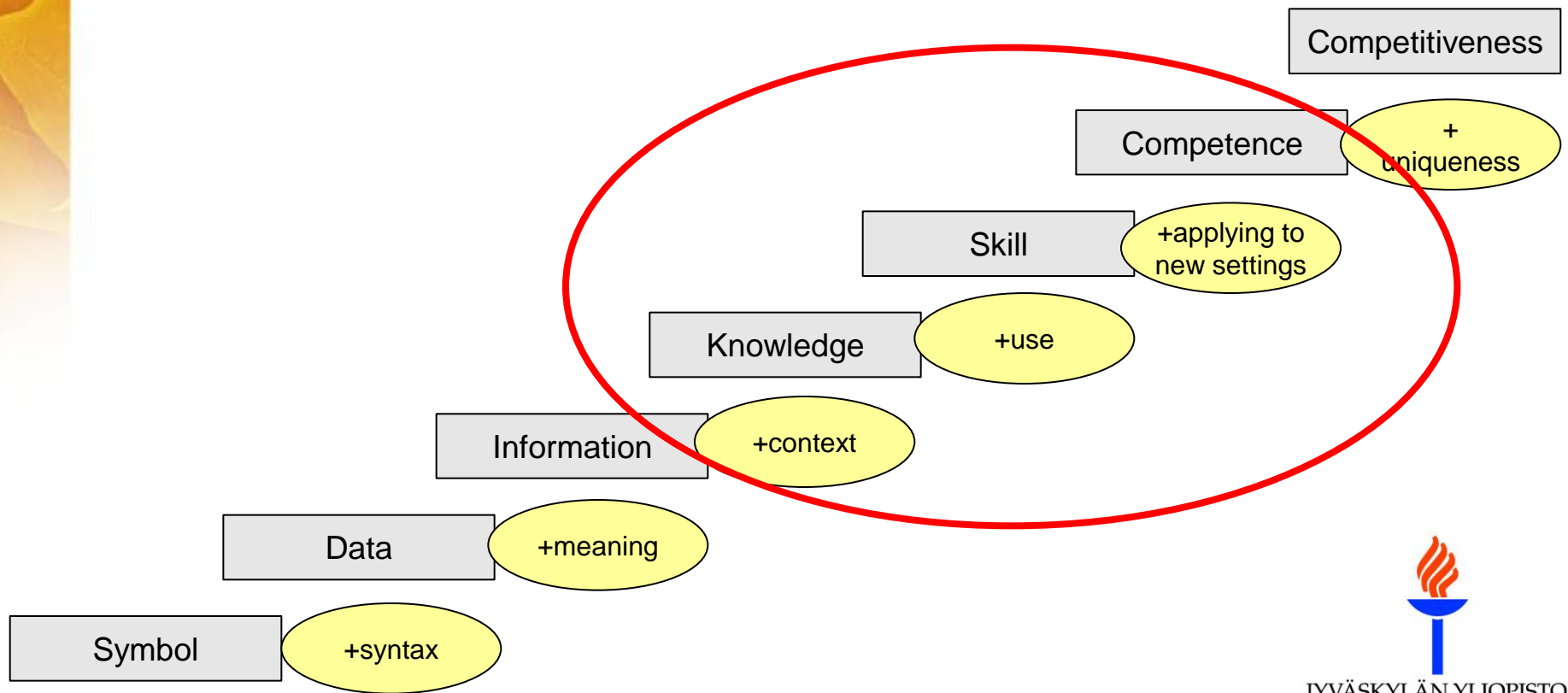


TeaCamp Study: What is the main weakness of new employees / students in your field when working globally?

- Not enough personal initiative and interest
- no global strategic view of the working subject**
- usability of the technologies used in e-learning** (too little tech. Knowledge)
- they are not taught to collaboration during some studies
- more theoretical knowledge than practice**
- they have normally problems with their communication competencies**
- not used to work in a different way
- not sufficient knowledge in working / acting globally**



Related Concepts (modified, North, 1998)



Competencies

- Learning Outcomes defined in the European Qualification Framework as
 - “[...] statements of what a learner knows, understands and is able to do on completion of a learning process”
- Learning outcomes described by competencies: e.g. will have a strong knowledge of ...
- We define **competencies** as a collection of skills, abilities, and attitudes to solve a problem in a given context.



Sample characteristics

Concept	Description	Sample Attributes
Competencies	Description of competencies /& learning outcomes to perform a task	Type of competencies, description, subject, level (proficiency level from EQF), complexity
Problem	Description of a problem in which a competency should be applied	Situation description, actors, type of tasks, expected outcomes
Context	Description of the environment and influence factors in which a competency is applied	Descriptions of cultural (e.g., country, country characteristics), institutional (e.g., Higher Education, enterprise), economic (e.g., time & budget constraints), location (geographic location, environment), technical (technical requirements, systems) context



Use of competences

- Description of Competence Profiles
 - For position or employee
- Targeted lifelong learning and employee development
- Targeted work force building (complementary competences in one group)
- Finding the right employees



Competency or Competence?

- Competency describes a full set of skills, abilities and attitudes
 - E.g. Communication Skills
- Competence describes a single item which can be part of the full set
 - E.g. Ability to read
- Both terms often mixed up



Competence Descriptions

- Problematic
- No standardized way
- Still open questions, such as: How to combine different competences?
- One option proposed by Paquette (2007)



Possible Description

Generic Skills Classes			Active meta-knowledge (Pitrat)	Generic problems (KADS)	Cognitive objectives (Bloom)	Skills cycle (Romiszowski)
1	2	3				
Receive	1. Acknowledge					Attention
	2. Integrate	2.1 Identify 2.2 Memorize			Memorize	Perceptual acuteness and discrimination
Reproduce	3. Instantiate/Specify	3.1 Illustrate 3.2 Discriminate 3.3 Explain	Knowledge Search and Storage		Understand	Interpretation
	4. Transpose/ Translate					Procedure Recall Schema Recall
	5. Apply	5.1 Use 5.2 Simulate	Knowledge Use, Expression		Apply	
Produce/Create	6. Analyze	6.1 Deduce 6.2 Classify 6.3 Predict 6.4 Diagnose	Knowledge Discovery	Prediction, Supervision, Classification, Diagnosis	Analyze	Analysis
	7. Repair			Repair		Synthesis
	8. Synthesize	8.1 Induce 8.2 Plan 8.3 Model/Construct		Planning, Design, Modeling	Synthesize	
Self-manage	9. Evaluate		Knowledge Acquisition		Evaluate	Evaluation
	10. Self-control	10.1 Initiate/Influence 10.2 Adapt/control				Initiation, Continuation, Control

Source: G. Paquette (2007). An Ontology and a Software Framework for Competency Modeling and Management



Problems of the term “competence”

- Humans usually not really familiar to think about competences
- Competences depending strongly on the context
- Often thinking rather in “problems” than competences
- Therefore description of:
 - **Competences** containing skills, abilities and attitudes at a certain level of complexity.
 - **Problems** denoting situation in which competencies are applied and
 - **Context** in which the problem solving is performed.



Assessment of Competences and different proficiency levels

- Standardized form of competence assessment necessary
- European Qualifications Framework (EQF)
 - to facilitate comparison of qualifications and qualifications levels
 - 8 levels for each competence / skill



Realization of the concepts

- How can the competence concept and competence profiles be used in the work life?
- How can we overcome problems with the term competence?



Globalization competences

- According to Stier (2006) six areas of intercultural competences (the six “c”)
 - Communicative
 - Cooperative
 - Confidence
 - Commitment
 - Critical thinking
 - Comparability



Competencies (derived from culture models)

- Competence to understand and use of ...
 - Power distance / teachers role
 - Individualism / role of collaboration
 - Accommodation of individual differences
 - Uncertainty avoidance
 - Long-term and goal orientation
 - Program flexibility
 - Motivation (extrinsic / extrinsic)
 - Value of errors
 - Learner Control
 - User activity
 - Cooperative Learning
 - Cultural sensitivity



Competence Categories

- **Domain specific competences** focusing on domain competences adapted for the international context.
- **ICT competences / Literacy** ranging from basic computer skills and skills to operate different programs to more complex knowledge about IT Architectures, Security and Management and Information retrieval.
- **Project Management and Leadership competences**, which could also be referred to as Coordination competences, covering areas such as basic business competences, team management and work distribution.
- **Collaboration and Knowledge Management competences** including knowledge sharing and transfer as well as work attitudes in an international team.
- **Communication competences** which focus strictly on the exchange of messages and information in verbal and written form including choice of communication style and management of communication.
- **Intercultural competences** including cultural awareness and understanding of cultural differences.

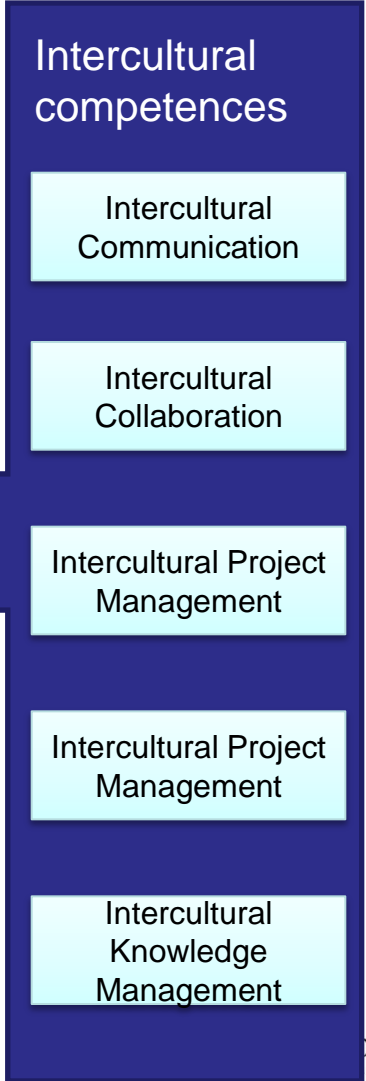
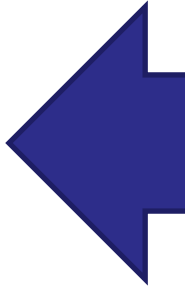
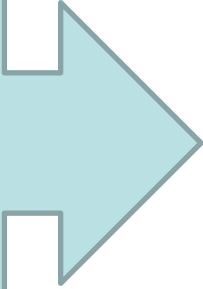
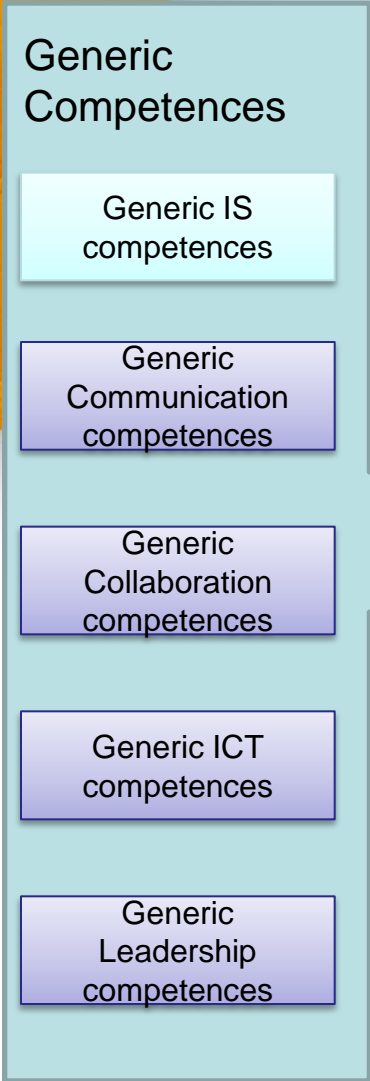
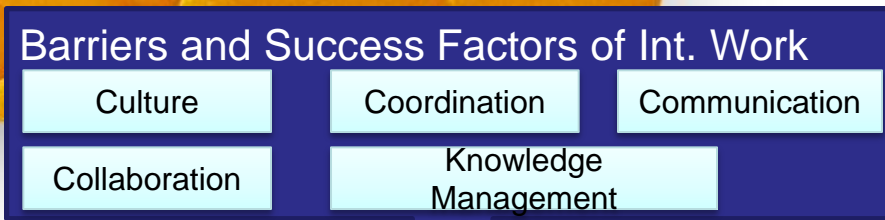


Case Study – International IS / Knowledge Management

- Target: Internationalization of the IS curriculum to enable graduates to work in the global environment
- Analysis of existing curricula for domain specific and international competences
- Several studies to get to a consensus of the new curriculum



- Analyzed
- Not detailed analyzed
- To be concluded



Additional categories

- Language competencies
- Emotional competencies (willingness, motivation etc.)
- Business competencies



Internationalization Competences

Communication

- Ability to communicate sensitively taking into account other personalities and cultures
- Ability to listen to others and consider their thoughts
- Ability to communicate clearly and articulately
- Ability to focus on key points during communication

Collaboration

- Ability to build national and international relationships and networks on a professional level
- Ability to share information and knowledge with the team
- Ability to collaborative problem resolution
- Ability to understand other people's perspectives, needs

Project Management

- Ability to manage own work
- Ability to use other people's expertise and knowledge
- Ability to take responsibility
- Ability to make decisions

Culture

- Foreign language skills (e.g. English)
- Understanding of the influences and implications culture has in work life
- Ability to adjust to different cultures
- Ability to evaluate perspectives, practices and products from multiple cultural perspectives

ICT

- Ability to align ICT with the business requirements
- Understanding of importance and limitations of different information sources
- Ability to find quality information with the help of ICT
- Ability to identify problems with ICT

influence

influence

IS Competences

Subject A

Subject B

...

Subject C

Subject D

...

Related Subject Competences

Business

...

Competence mapping

- Describe the problem / challenge / success factor
 - Success factors
 - Culture models
 - ...
- Describe the competence using competence vocabulary and derive the complexity
- Map competence profiles to actors to be recruited



Summary

- Concepts of Competency and Competence problematic (Differences, Understanding etc.)
- Internationalization of the competence set necessary to be successful in a global world
- This internationalization still not done
- Different options for the usage of competence-based approaches




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Analysis

- Analyzing the influence of culture on Virtual mobility
- Analysis grid
 - Relating culture models to Virtual Mobility curriculum / competencies
 - Relating cultural competencies to Virtual Mobility curriculum / competencies
- Combined with detailed questionnaire



Analysis Grid #2:

Domain vs. cultural aspects

	Intercultural Communication	International Collaboration	Coordination / International Project Management	ICT Skills
Learning Strategies				
E-Assessment Strategies				
Advanced Learning Technologies				
Collaborative Online Group Work				
Information Literacy				



Analysis Grid #2.1: Global vs. domain competencies

	Power distance / teachers role	Individualism / role of collaboration	Accommodation of individual differences	Uncertainty avoidance	Long-term and goal orientation	Program flexibility
Learning Strategies						
E-Assessment Strategies						
Advanced Learning Technologies						
Collaborative Online Group Work						
Information Literacy						



Analysis Grid #2.2: Global vs. domain competencies

	Motivation (extrinsic / extrinsic)	Value of errors	Learner Control	User activity	Cooperative Learning	Cultural sensitivity
Learning Strategies						
E- Assessment Strategies						
Advanced Learning Technologies						
Collaborative Online Group Work						
Information Literacy						

