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UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ingenio CSIC-UPV
Institute of innovation and knowledge management

Fostering Competencies

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**WP4 Training workshops |
October - November 2017**

BOLONGA PROCESS: PEDAGOGICAL DIMENSION

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1. Role of Higher Education in Knowledge Society

- Europe and the rest of the world move towards a knowledge society (KS)
- An effective system of HE is seen as increasingly important
  - To the economy
  - To society at large
- Given the breadth of the concept of KS, it is difficult to determine the part to be played in it by HE
  - Super-complexity → suggests greater division of labour & fragmentation of academic disciplines
  - Flexibility in professional life → suggests greater emphasis on generic transferable skills in the workplace
  - Massification → suggests interdisciplinary & integration in the university
  - Over-education → graduates are forced to work in jobs for which a lower level of education would be more appropriate
- HE no longer automatically confers an elite status on labour market

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1. Role of Higher Education in Knowledge Society

- The ambiguity of the meaning of the knowledge society is reflected in tensions……workers are expected:
  - To possess the advanced and specialised **KNOWLEDGE and SKILLS** required by modern high-level professionals
  - To be highly **FLEXIBLE and ADAPTABLE**
  - To be able and willing to **TAKE UP CHALLENGES** not closely related to the specific field in which they have been trained
- For access to key positions, HE is increasingly becoming a necessary, but no longer a sufficient, condition
- Many professions are subject to an increasingly complex and demanding set of criteria

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1. Role of Higher Education in Knowledge Society

Bologna declaration

- Puts Higher Education in the centre of EU policy with the goal to create a “Europe of Knowledge”

- To become the most competitive and dynamic knowledge-based economy capable of sustainable economic growth with
  - More and better jobs, and
  - Greater social cohesion

- Universities have a vital role to play in realising that goal

1. Role of Higher Education in Knowledge Society

Bologna Process: Key Points

- The adoption of a European credit transfer and accumulation system(ECTS)
- The establishment of a two-level educational system, with qualifications (Degree: Bachelor, Architect or Engineer) that qualify for insertion in the labor market
- Access to the second level (Postgraduate: Master and / or Doctorate)
- Diploma Supplement
- Quality assessment

1. Role of Higher Education in Knowledge Society

http://ecahe.eu/

- A3ES – Agency for Assessment and Accreditation of Higher Education, Portugal
- ACPUA – Aragon Agency for Quality Assurance and Strategic Foresight in Higher Education, Spain
- ACSUCYL – Agencia para la Calidad del Systema Universitario de Castilla y León, Spain
- ACSUG – Agency for Quality Assurance in the Galician University System, Spain
- AHPGS – Accreditation Agency in Health and Social Sciences, Germany
- AIKA – Academic Information Centre / Latvian Quality Agency for Higher Education, Latvia
- ANECA – National Agency for the Quality Assessment and Accreditation, Spain
- AQAS – Agency for Quality Assurance through Accreditation of Study Programmes, Germany
- ASHE – Agency for Science and Higher Education, Croatia
- CTI – Engineering Degree Commission, France
- Danish Accreditation Institution, Denmark
- HCERES – High Council for the Evaluation of Research and Higher Education, France
- NVAO – Accreditation Organisation of the Netherlands and Flanders, the Netherlands and Flanders (Belgium)
- PKA – Polish Accreditation Committee, Poland
- SQAA – Slovenian Quality Assurance Agency for Higher Education, Slovenia
- UKÄ -Swedish Higher Education Authority, Sweden
- Unibasq – Agency for the Quality of the Basque University System, Spain
- ZEvA – Central Evaluation and Accreditation Agency, Germany

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1. Role of Higher Education in Knowledge Society

*It may be necessary to zoom in to view all the agencies within one city.

SKVC

SKVC - Centre for Quality Asse...

name

SKVC - Centre for Quality Assessment in Higher Education

description

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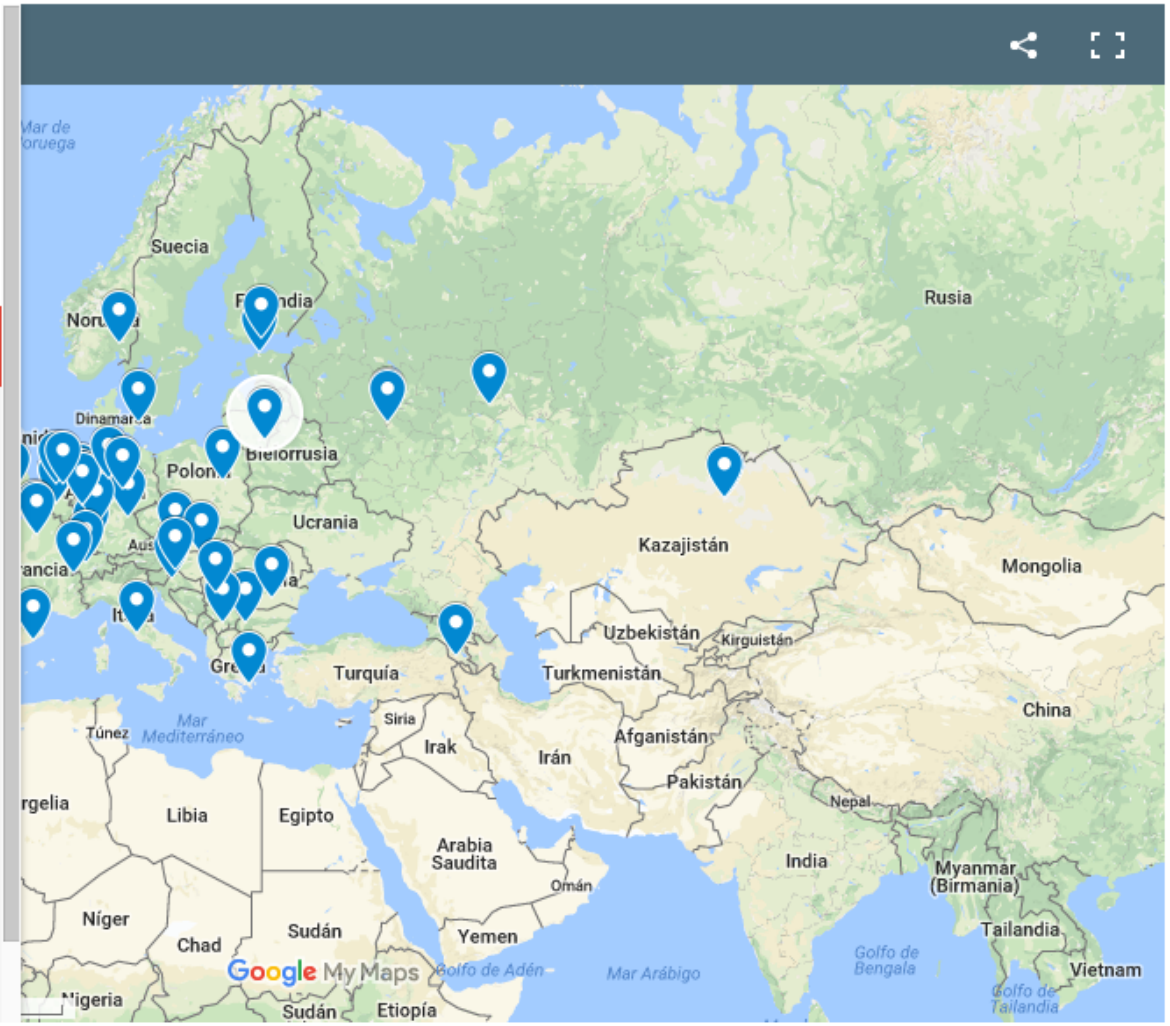
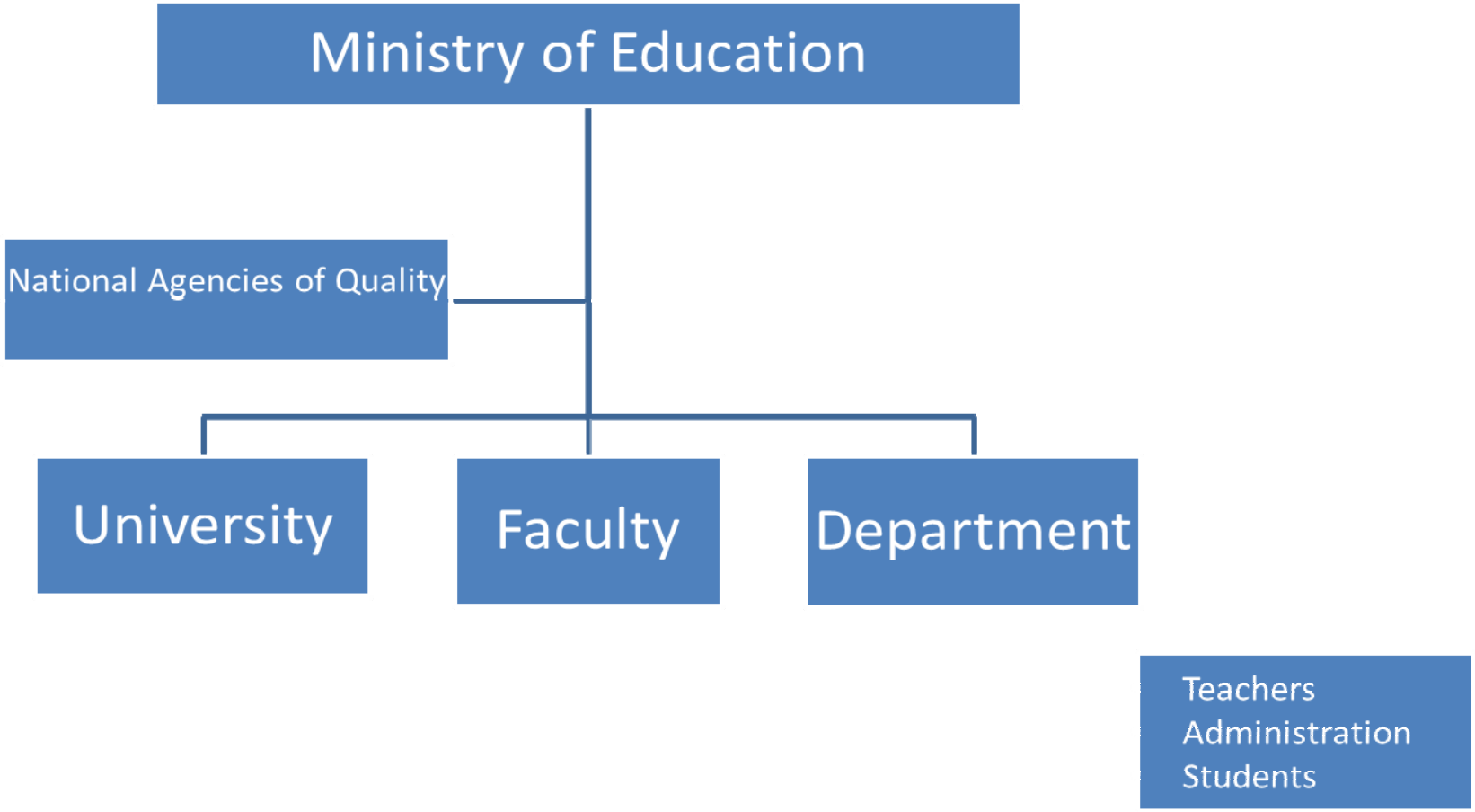
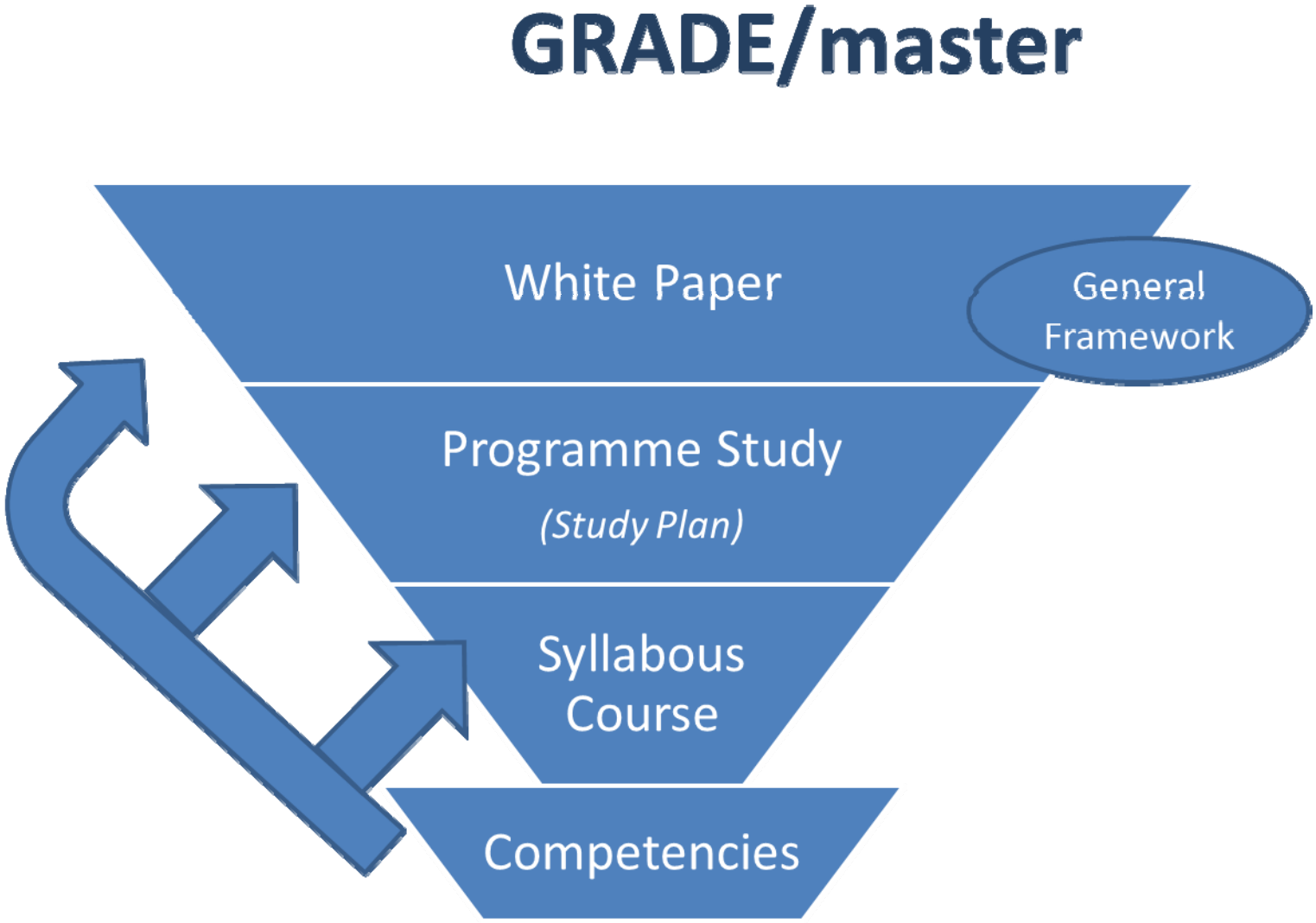


1. Role of Higher Education in Knowledge Society

DESING OF GRADE



1. Role of Higher Education in Knowledge Society



1. Role of Higher Education in Knowledge Society

Five Demands……

Competencies with which individuals need to be equipped

- *Professional expertise*
- *Functional flexibility*
- *Innovation and knowledge management*
- *Mobilisation of human resources*
- *International orientation*

1. Role of Higher Education in Knowledge Society

Professional Expertise

- HE graduates are expected to become experts in their professional field:
- Domain-specific knowledge, related to:
  - The way they approach problems, make diagnoses, use automated procedures, have intuitive feelings about solutions and correctly infer conclusions and interpretations

- Mastery of the knowledge and skills relevant in one's own domain work

- Analytical thinking

- Command authority and act decisively in uncertain situations

1. Role of Higher Education in Knowledge Society

Functional flexibility

- HE graduates are able to take up diverse challenges, many not directly related to their own field of expertise, and to quickly acquire new knowledge.
- Ability to adapt to changes
- Change the environment in which they work
- Ability to deal with change in a positive way

1. Role of Higher Education in Knowledge Society

Innovation and knowledge management

It is expected that graduates do more than simply carry out a set of prescribed tasks

To provide ways of expanding and improving the way in which they provide goods and services

- Developing ideas to implementation
- Innovative capacities
- Creativity
- Curiosity
- A willingness and ability to question the status quo
- Absorptive capacity
- Notice new opportunities, access to relevant networks and networking skills
- ICT-Skills
- Foreign language abilities and communication skills
- Synthesize information, etc.

1. Role of Higher Education in Knowledge Society

Mobilisation of human resources

- Graduates are expected to have the ability to effectively mobilise their own competencies and actively steer one's own work as well as that of others

- Ability to work autonomously
- Cooperate fruitfully with others when working in a team
- Manage their own skills
- Mobilize the capacities of others – leadership skills
- Communicate ideas and inspire others
- Plan and monitor work processes
- Be assertive and to take decisive actions

1. Role of Higher Education in Knowledge Society

International orientation

- Globalisation and the blurring of national borders increase the importance of a strong international orientation

- Good command of foreign languages
- Ability to understand and empathise with other cultures
- Willingness and ability to appreciate the limitations of the own national context
- Development of intercultural competencies

The role of Higher Education

- To equip students with the knowledge, skills and attitudes that they need in the **workplace** and that employers require
- *Competencies = (kind of knowledge, skills and attitudes)*
- To ensure that individuals have more opportunities to maintain or renew those competencies throughout their working life
- To impart knowledge and information, improving cognitive skills and strengthens socio-emotional *capabilities* (e.g. conscientiousness, self-efficacy, social skills) in order to **enhance social outcomes**
- To help individuals pursue healthier lifestyles and increase their engagement in civil society
- This involves a balance between knowledge on the one hand, and transferable skills and values on the other hand

2. Competencies

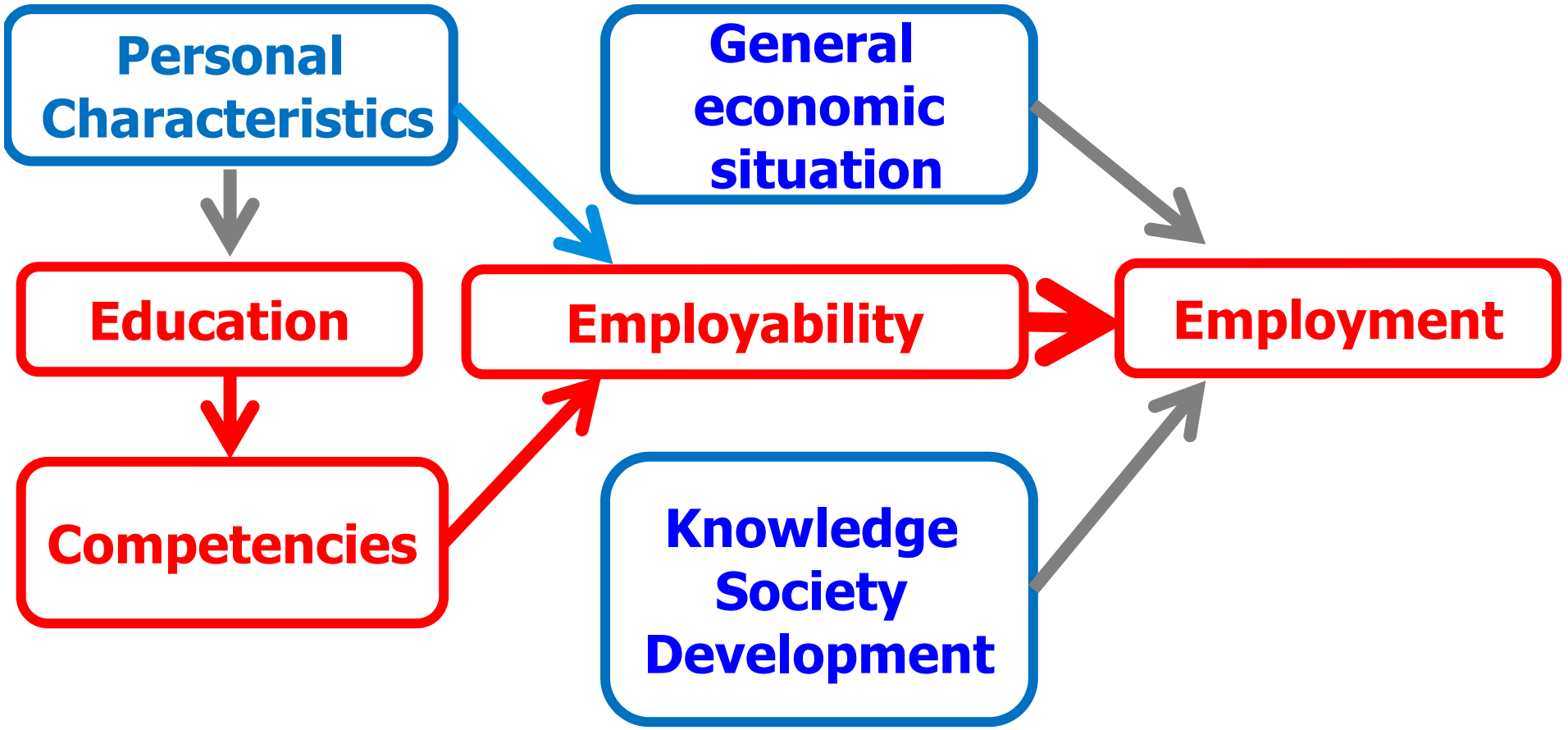
Competencies → Employability → Employment

- To provide the right competencies to graduates is the most important mission of universities **from an economic point of view**
- Employability understood as:

"A set of achievements – skills, understandings and personal attributes – that makes graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy" *M. Yorke (2006).*

2. Competencies

Graduates employment: Confluence of factors



2. Competencies

In designing learning environments…

- **KNOWLEDGE**
- Knowledge are *things you know*, like facts, concepts, or domain models.
- Knowledge is usually the type of thing you find described in most text books.
- Knowledge is something that you have conscious access to and can tell someone about
- **SKILLS**
- Skills are *things you do*, like sing a song, calculate a formula, throw a ball. Almost always, you will use knowledge when you perform a skill.
- Skills are not something you have conscious access to, you just "do it" although you may have knowledge about the skill that allows you do describe what you can do.

2. Competencies

In designing learning environments…

- **ATTITUDES**
- Attitudes are *what you tend to do*, just because you can do something doesn't mean you actually do it – and attitude specifies what you actually tend to do.
- For example, everyone knows how to avoid drinking and driving, but not everyone has the attitude to not drive while drunk.

2. Competencies

What's the Difference between Skills & Competencies?

- The terms SKILLS and COMPETENCIES are used, virtually, interchangeably.

- In fact, among HR practitioners, COMPETENCIES seem to only relate to "Behavioural" competencies, but this really is not the case.

2. Competencies

What is a SKILL?

- Proficiency, facility or dexterity that is acquired or developed through training or experience
- The ability, coming from one's knowledge, practice, aptitude, etc., to do something well
- An ability and capacity acquired through deliberate and sustained effort to smoothly and adaptively carry out complex activities or job functions involving ideas (cognitive skills), things (technical skills) or people (interpersonal skills)
- A skill is the learned capacity to carry out pre-determined results
- Etc….

To sum up, a skill is something learned in order to be able to carry out one or more job functions

2. Competencies

What is a COMPETENCY?

- A cluster of related abilities, commitments, knowledge and skills that enable a person to act effectively in a job or situation.
- Competencies refer to skills and knowledge that lead to superior performance
- Measurable skills, abilities and personality traits that identify successful employees against defined roles within an organisation
- A competency is more than just knowledge and skills. It involves the ability to meet complex demands, by drawing on and mobilising psychosocial resources (including skills and attitudes) in a particular context.

Competencies, may incorporate a skill, but are MORE than the skill, they include abilities and behaviours, as well as knowledge that is fundamental to the use of a skill.

An Example

IT context - Programming

- To effectively write a computer program one needs good analytical, logical and interpretive ability as well as the skill to write the program in a specific language.
- So, learning Java, C++, etc., is a skill.
- But, underlying the ability to use that skill effectively is analytical, logical and interpretive ability – those are competencies.
- It is relatively easy to learn other programming languages once one knows one language well. However, without the underlying competency, it is virtually impossible to write an effective program – irrespective of the language.

3. Group of Competencies

Generic Competencies (GC)

- GC are known by different names and from different perspectives:
  - Generic competencies, core competencies, key competencies, transferable competencies, etc.
- They describe key competencies in relation to a broad variety of life-long personal, social, academic and employment contexts.
- GC constitute a fundamental part of the professional and training profile of all or most qualifications
- Companies demand graduates that have not only technical competencies, but also methodological, **human and social competencies**, that is, human resources with **all the competencies related to the ability to act effectively in specific work and life situations in general.**

3. Group of Competencies

Specific Competencies (SC)

- Specialized, specific or technical competencies are related to technical aspects directly linked to the job and are not easily transferable to other employment contexts.
- Unlike generic competencies **they are characteristic of each profession** and they give a job its identity, and so they are the characteristic competencies of a qualification.
- Example, SC for students on the 4th year of Management & Business Administration course include:
  - The ability to manage groups of people
  - The ability to transmit and communicate in writing and orally using appropriate terminology and techniques
  - The ability to make analyses and diagnostics, lend support and take decisions on matters of organisational structure, the organisation of work and time and method studies

Example – Structure

- Degree: 3 years (180 credits).
- Master's Degree: 1 year (60 credits)
- Doctorate: 3 years.

Example: Bussines Grade

- Each course is organized in two semesters.
- The week consists of 20-25 hours of theoretical classes, exercises and seminars (work in the university). To this personal work is added
- The first and second year of the degree are composed of approximately: 2/3 theory 1/3 of exercises and personal work
- The third year of the degree will have approximately 40% theory and 60% of practices, seminars and personal work.

Example – Econometrics

- **Name:** ECONOMETRICS I
- **Credits (ECTS):** 6 (around 150 hours of work)
- **Character:** Compulsory
- **Location in the programme study:** 3rd course, 1st forth-month period

TRABALLO PRESENCIAL NA AULA	Horas	TRABALLO PERSOAL DO ALUMNO	Horas
Docencia en grupo grande	15	Estudo autónomo individual ou en grupo	60
Docencia en grupo reducido	30	Escritura de exercicios, conclusións ou outros traballos	5
Titoría en grupo	10	Programación/experimentación ou outros traballos en ordenador/laboratorio	15
Outras sesións con profesor: avaliación	5	Lecturas recomendadas, actividades en biblioteca ou similar	10
		Preparación de presentacións orais, debates ou similar	-
		Asistencia a charlas, exposicións ou outras actividades recomendadas	-
		Outras tarefas propostas polo Profesor. Especificar:	-
Total horas traballo presencial na aula	60	Total horas traballo persoal do alumno	90

Example – Business and Management Degree

KEY & GENERAL COMPETENCIES

- Summarize information from different information sources in a critical way
- Plan the work/task efficiently
- Oral and written communication in native language (Spanish)
- Oral and written communication using foreign language (Germany, French, English, etc..)
- Look for creative solutions for solve daily problems
- Solve multidisciplinary problems in a positive way
- Work in multidisciplinary teams
- Work in different work environments
- Self-learning
- Work using quality and sustainability criteria
- Apply ethics criteria at work/tasks.

SPECIFIC COMPETENCIES

- Ability to design, analyse and argue administrative information
- Ability to design, analyse and discuss commercial information inside the company
- Capacity to make financial decisions
- Capacity to understand, analyse and discuss company's organization procedures
- Ability to use company's information for a better company's management
- Ability to understand the main behaviour theories for the company at the individual level market and at the aggregate level (global market)

3. Group of Competencies

Transversal Competencies (TC)

- TC sometimes are considered as key competencies referring to those areas of competency that are needed not only at the labour market but also in private relationships, in political engagement, and so on.
- They are important for ALL individuals, emphasising that everyone should aspire to develop and maintain.
- They are most commonly integrated into curricula through three modes:
  - Integration into a specific subject
  - Cross subject
  - Extracurricular activities

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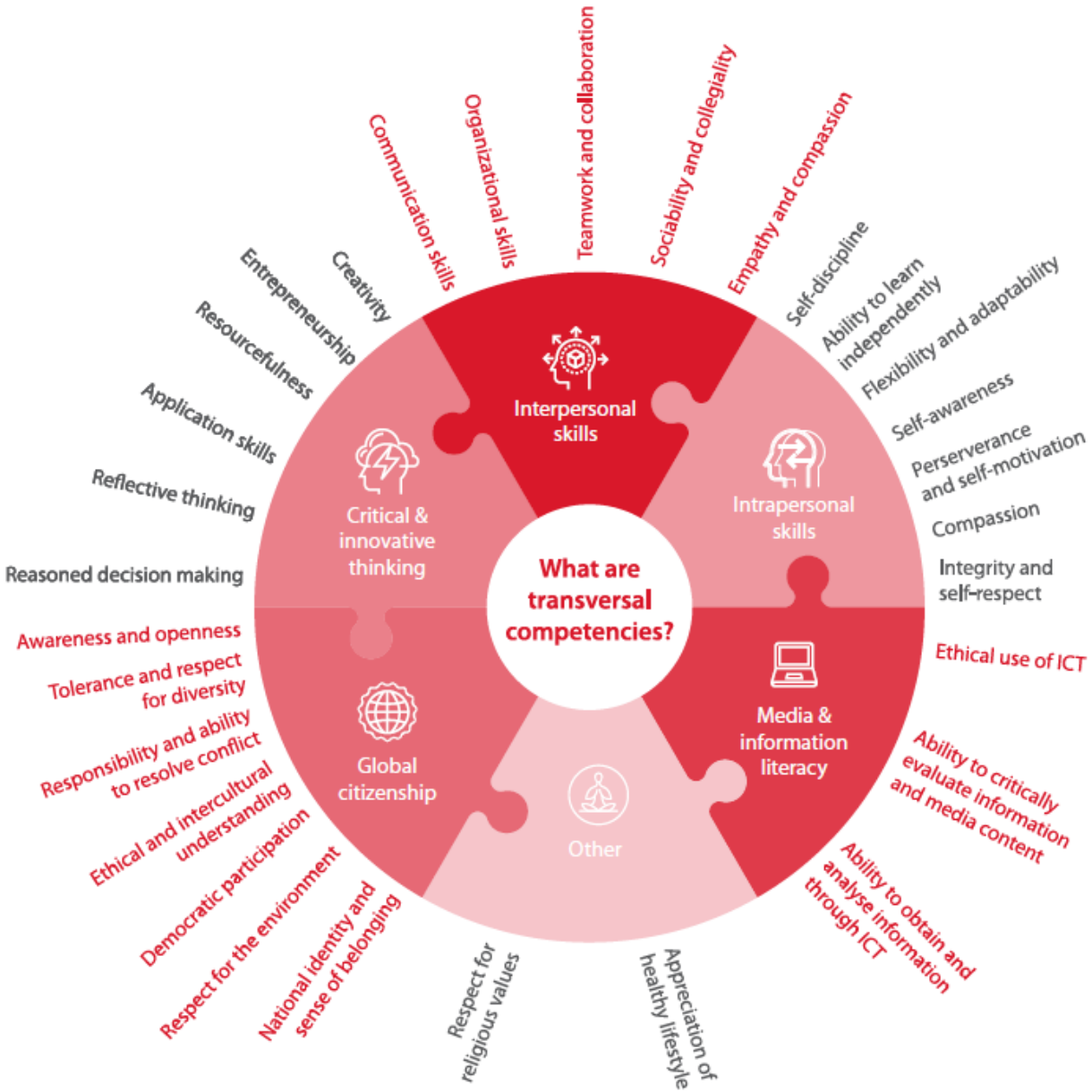
Example of Transversal Competencies



Example - Econometrics

KEY AND GENERAL COMPETENCIES

- CB1 - The students should to possess and understand knowledge in a study area. It includes some aspects which involve knowledge from the forefront of your field of study
- CB2 – The students need to apply their knowledge to their work or vocation in a professional way and possess the skills that are usually demonstrated through the elaboration and defence of arguments and the resolution of problems within their area of study
- CB3 - Ability to gather and interpret relevant data (usually within their area of study) to issue judgments that include a reflection on relevant social, scientific or ethical issues
- CB4 - Students can transmit information, ideas, problems and solutions to a specialized and non-specialized audience
- CB5 - The students have developed those learning skills necessary to undertake further studies with a high degree of autonomy
- CG2 – To develop and defend arguments about economic issues at a general level, as well as solve problems about these issues, making use of their knowledge of business reality, theories, models and own scientific methods

TRANSVERSAL COMPETENCIES

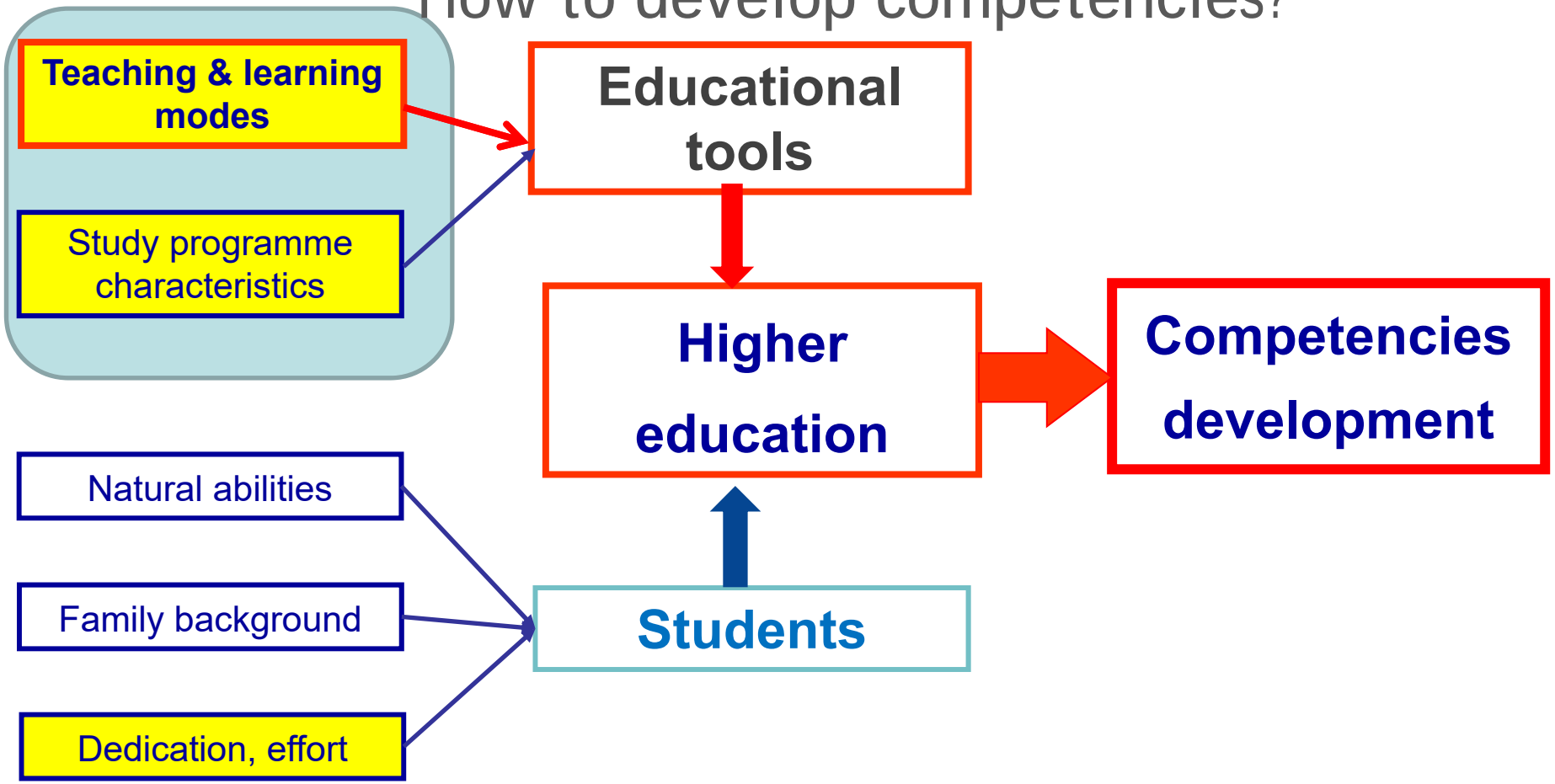
- CT1 - Analysis and synthesis
- CT2 - Organization and planning
- CT3 - Oral and written communication
- CT4 - Management of information.
- CT5 - Knowledge of information technology related to the field of study.
- CT6 - Resolution of problems.
- CT9 - Autonomy in learning
- CT10- Working in group

SPECIFIC COMPETENCIES

- C4 - Basic elements of econometric models and prediction
- D6 - Identify the sources of relevant economic information and its content
- D7 - Understand the economic institutions as a result and application of theoretical or formal representations about how the economy works
- D8 - Derive information from relevant information impossible to recognize by non-professionals

4. Developing Competencies

How to develop competencies?



Teaching and learning approach

Competencies are important because they contribute to:

- boosting productivity and market competitiveness;
- minimizing unemployment through developing an adaptive and qualified labour force; and
- creating an environment for innovation in a world dominated by global competition.

Economic

- increasing individual participation in democratic institutions;
- social cohesion and justice; and
- strengthening human rights and autonomy as counterweights to increasing global inequality of opportunities and increasing individual marginalization.

Social (political and cultural)

4. Developing Competencies

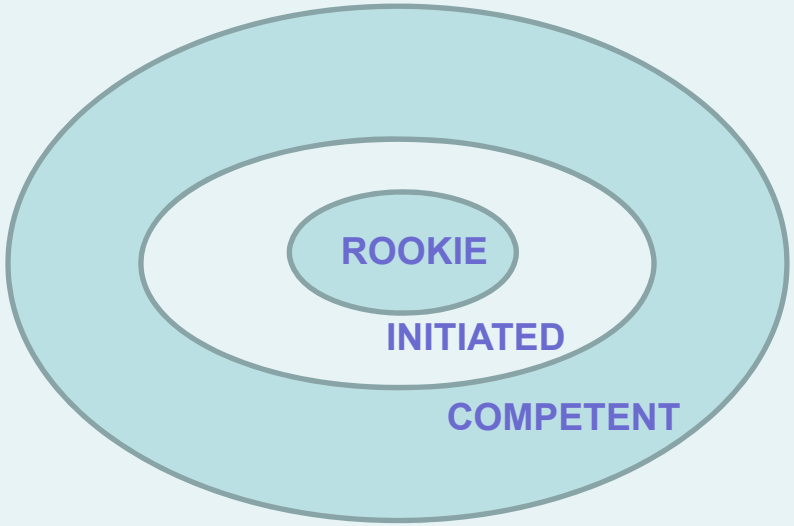
- Pedagogical techniques for developing competencies. Change of paradigm

Traditional paradigm	Competency Paradigm
- Analytical - One direction - Students as receivers - Unidimensional problems - Teachers as experts - Academic world isolated from real world - Directed to cognitive (rationalistics) student´s capacities	- Systemic and hermeneutic - Bidirectional - Students as participants of knowledge creation. - Multidimensional problems - Teachers as experts and guides. (transformational) - Academic world in real world. - Directed to cognitive, emotional and cultural student´s capacities.

4. Developing Competencies

- Knowledge acquisition process (I)

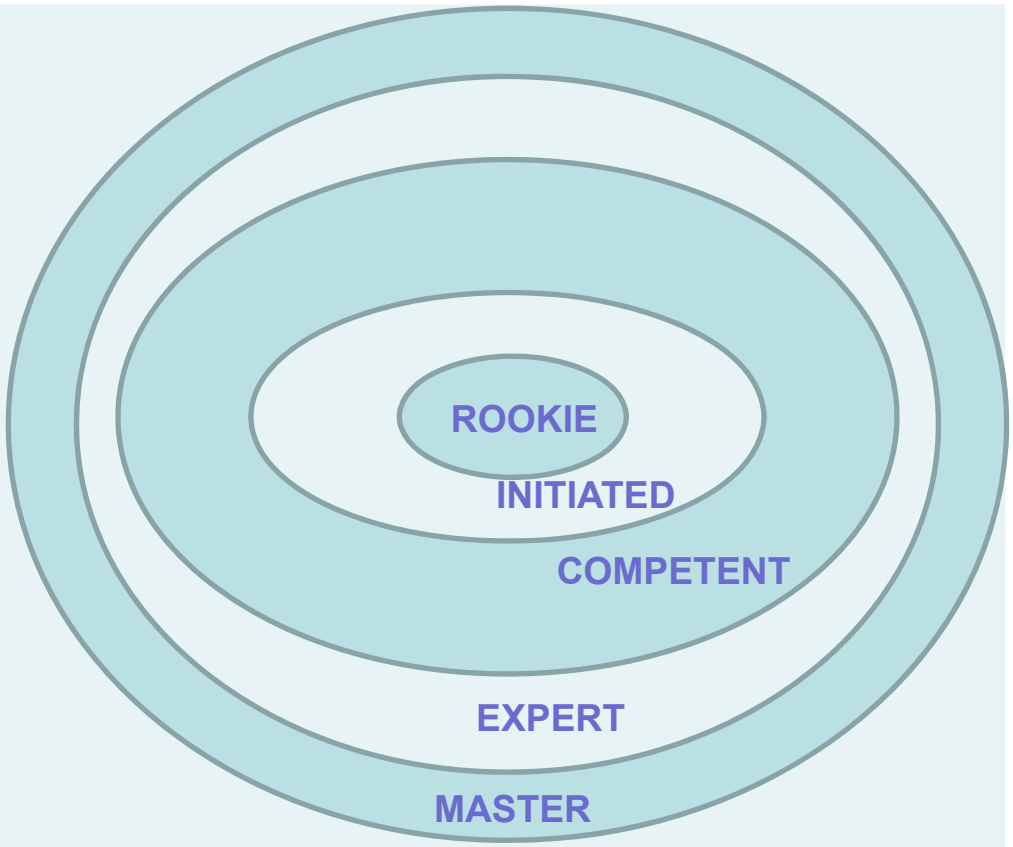
Knowledge Level	

- Rookie, freshman
  - To Know *What* **to do**
  - The person RECEIVES
  - Basic Facts and Rules
- Initiated
  - To Know *How* **to do**
  - IMITATES
  - Specific Facts and Rules
- Competent (Proficient)
  - To be able to do
  - CHOOSES, DECIDES
  - Explicit understanding/To Know how
  - Problems
	

4. Developing Competencies

- Knowledge acquisition process (II)

Knowledge Level	

- Expert
  - Is able to do and wants to do
  - DESIGNS and UNDERSTANDS
  - Implicit understanding
  - Cases
- Master
  - Teaches
  - RECOGNISES and INTEGRATES
  - Intuitive Action
  - Resources
	

4. Developing Competencies

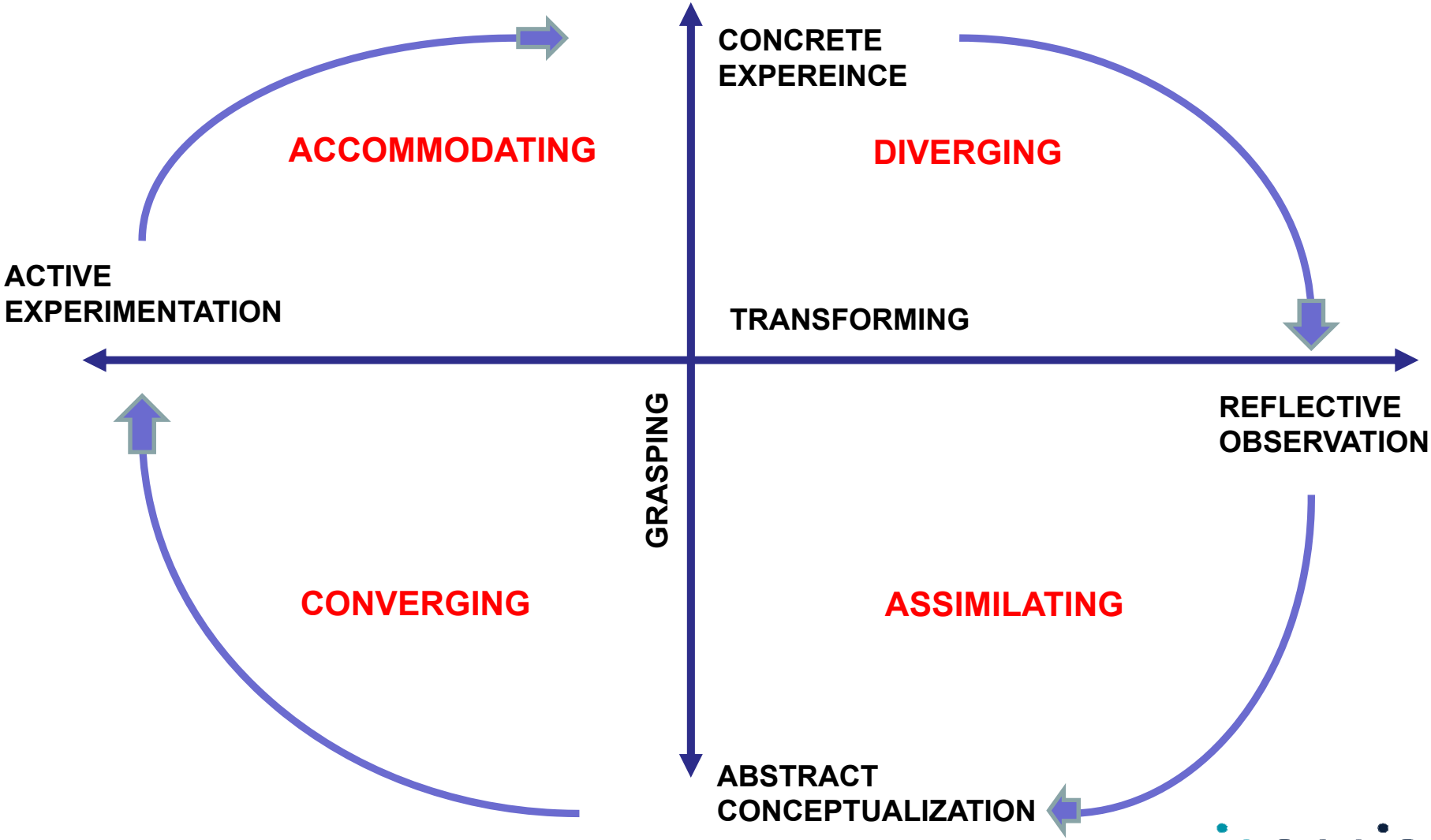
- Knowledge acquisition process (Kolb, 1984)

4. Developing Competencies

- Knowledge processing procedure (Kolb, 1984)

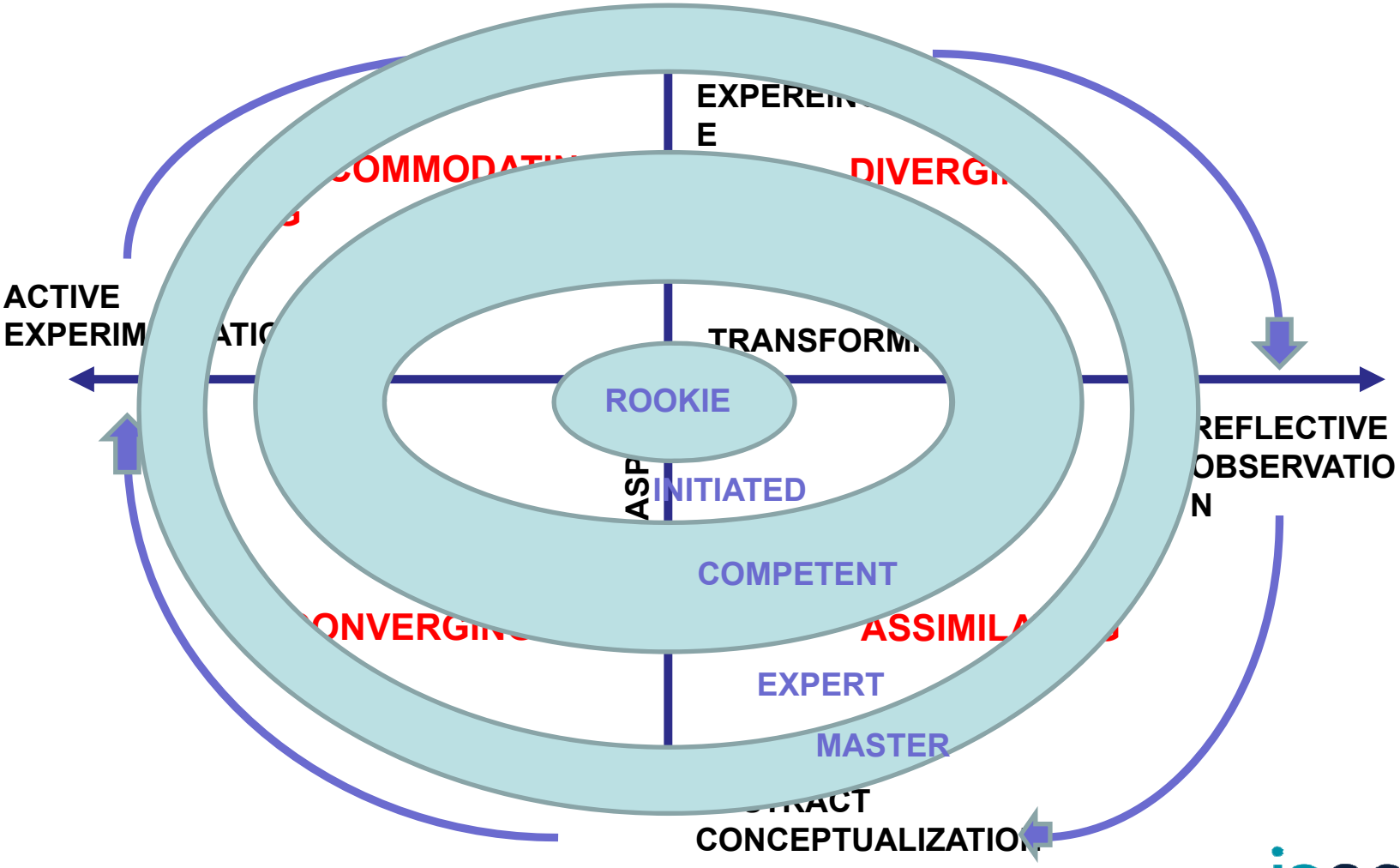
4. Developing Competencies

- Kolb cycle of Experimental Learning (Kolb, 1984)



4. Developing Competencies

- Kolb Cycle of Experimental Learning and the knowledge acquisition process



4. Developing Competencies

- Competencies' definition levels in the learning context

ROOKIE	INITIATED	COMPETENT	EXPERT	MASTER
KNOW	UNDERSTAND	APPLY	ANALYZE-SYNTHESIZE	EVALUATE
Define Describe Identify Classify Enumerate Name Review Repeat Select Set	Distinguish Simplify Infer Explain Summarize Draw conclusions Relate Generalize Predict Base	Exemplify Change Evidence Handle Operate Solve Compute Discover Modify Use	Categorize Compile Create Design Organize Build Combine Compose Integrate Plan Schematize Reorganize	Judge Justify Appreciate Value Compare Criticize Check Differenciate

4. Developing Competencies

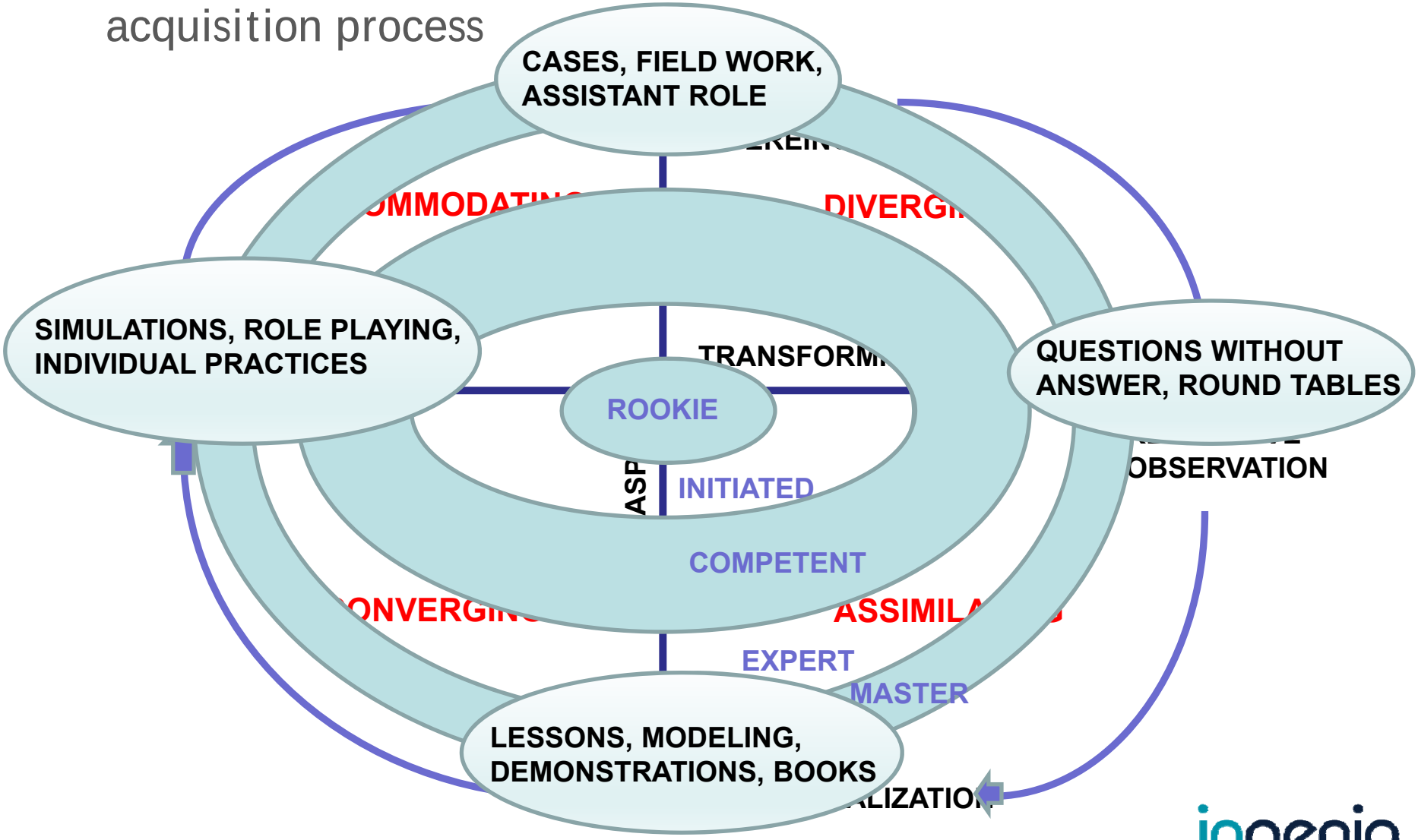
How to foster competencies from Higher Education?

- Acquisition of competencies depends on the prevalence of some pro-active teaching and learning modes, mainly:
  - Problem-based learning: case studies
  - Role-playing
  - Participative research-action

- Traditional modes in teaching and learning contribute little, if any, to develop competencies

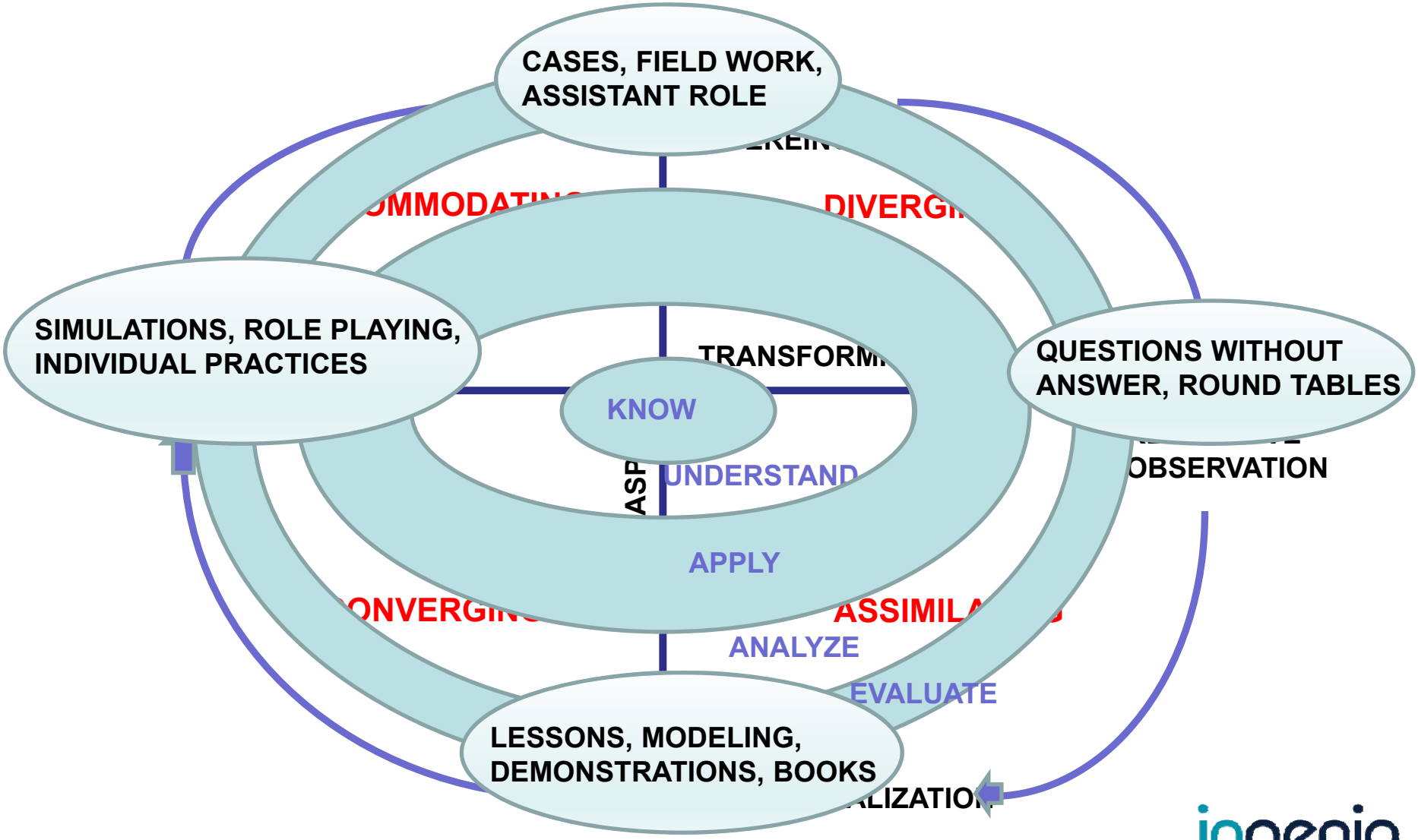
4. Developing Competencies

- Kolb Cycle of Experimental Learning and the knowledge acquisition process



4. Developing Competencies

- Competency level vs. knowledge acquisition level



4. Developing Competencies

Problem-based learning: case studies

- The case method is based on a philosophy of professional education which associates **knowledge directly with action** (Boehrer, 1995).

- This philosophy rejects the doctrine that students should first learn passively, and then, having learned, should apply knowledge. Instead, the case method is based on the principle that real education consists of the cumulative and unending acquisition, combination and reordering of learning experiences.

- Through this methodology, students develop their capacity to:
  - Participate in public analysis and solution of relevant practical problems
  - Apply theory to the practice
  - Learn doing and teaching others

    - Ivey: https://www.iveycases.com/
    - The case center: http://www.thecasecentre.org/educators/
    - IESE: http://www.iesep.com/en

4. Developing Competencies

The Case Study Method in the STEM Classroom

Clyde Freeman Herreid

Abstract

"Active learning" where students are required to do something in the classroom rather than simply listen to a lecture has been repeatedly shown to be superior to the lecture method in advancing student learning. The use of case studies in the classroom is one of the most successful active learning methods of teaching science, technology, engineering and mathematics (STEM). How this method evolved and is currently revolutionizing teaching has major implications for metropolitan universities where many students are non-traditional and at risk.

https://journals.iupui.edu/index.php/muj/article/viewFile/20286/19879

4. Developing Competencies

Teaching with cases

The teacher´s rol

- Present the situation
- Clarify concepts and give information
- Leading class discussion
- Ask for arguments
- Support and feedback

The student´s rol

- Analyze the situation
- Search for relevant information
- Incorporate the theory to the problem
- Make a decision
- Present and defend to the public the decision
- Evaluate arguments from people.

Role-Playing

Efficacy of role-playing pedagogy in training leaders: some reflections

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Keywords *Role play, Teaching, Training, Leadership*

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Revised September 2003
Accepted December 2003

A review of the literature suggests a direct relationship between role-playing and effective learning. As claimed by Eitington (1989, p. 77), being involved in the operation is the way we are most likely to really learn:

> In short, in role playing one learns by doing, by introspecting, by observing, by giving feedback, and by engaging in an overall analysis of the total activity

4. Developing Competencies

Participation in research projects (Participatory action research)

GLOSSARY

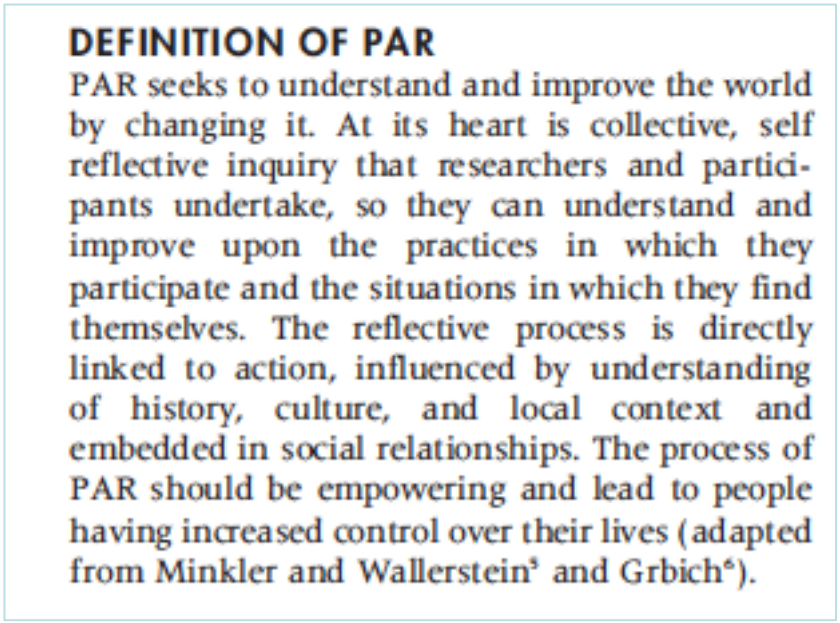
Participatory action research

Fran Baum, Colin MacDougall, Danielle Smith

J Epidemiol Community Health 2006;**60**:854–857. doi: 10.1136/jech.2004.028662

This glossary aims to clarify some of the key concepts associated with participatory action research.

advocating for power to be deliberately shared between the researcher and the researched: blurring the line between them until the researched become the researchers. The



DEFINITION OF PAR

PAR seeks to understand and improve the world by changing it. At its heart is collective, self reflective inquiry that researchers and participants undertake, so they can understand and improve upon the practices in which they participate and the situations in which they find themselves. The reflective process is directly linked to action, influenced by understanding of history, culture, and local context and embedded in social relationships. The process of PAR should be empowering and lead to people having increased control over their lives (adapted from Minkler and Wallerstein[5] and Grbich[6]).

4. Developing Competencies

Participation in research projects (Participatory action research)

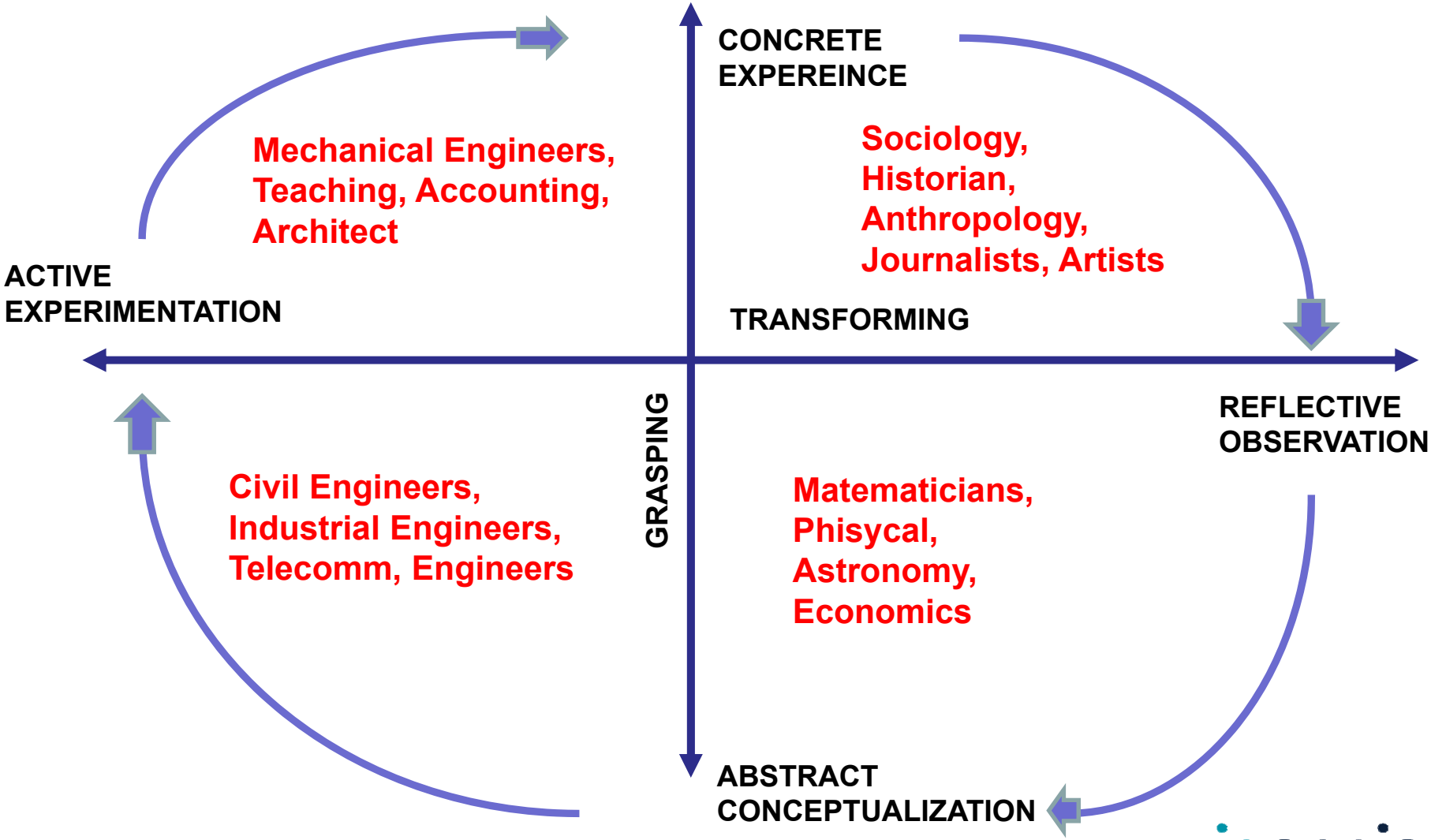
PAR has some key components:

- a focus on change – commitment to participate with people to improve and understand the world by changing it.
- context-specific – it is generally targeted around the needs of a particular group although this can vary in size from small teams to projects encompassing entire communities;
- emphasis on collaboration – researchers and participants working together to examine a problematic situation or action to change it for the better.
- participants are competent and reflexive and capable of participating
- knowledge is generated through participants' collective efforts and actions;
- liberatory – PAR seeks to 'liberate' participants to have a greater awareness of their situation in order to take action, although for some researchers the emphasis on liberation will be tempered;
- success is some personal or collective change.

https://participaction.wordpress.com/whatpar/defining-par/

4. Developing Competencies

- Kolb identifies preferred learning styles with Degrees



5. Competencies Assessment and Evaluation

Competencies assessment and evaluation as a learning process.

- "Rubric (…) is a document that articulates the expectations for an assignment by listing the criteria or what counts, and describing the levels of quality from excellent to poor" (Reddy and Andrade, 2010).

- Three essentials features
  - Evaluation criteria
  - Quality definition
  - Scoring strategy

5. Competencies Assessment and Evaluation

A rubric is commonly defined as a tool that articulates the expectations for an assignment by listing criteria, and for each criteria, describing levels of quality (Andrade, 2000; Arter & Chappuis, 2007; Stiggins, 2001).

Rubrics help instructors:

- Provide students with feedback that is clear, directed and focused on ways to improve learning.
- Demystify assignment expectations so students can focus on the work instead of guessing "what the teacher wants."
- Adapt your approach to teaching aspects of a course based on thematic gaps in student learning that are easily identified by reviewing rubrics across a class.
- Develop consistency in how you evaluate student learning across students and throughout a class.

Rubrics help students:

- Focus their efforts on completing assignments in line with clearly set expectations.
- Self and Peer-reflect on their learning, making informed changes to achieve the desired learning level.

5. Competencies Assessment and Evaluation

Example Grading Rubric

Criterion	Below Standard	Meets Standards	Exceeds Standards	Numeric Grade
Insight	A summary or contains little to no analysis 0–15 pts	Contains a decent analysis 16–20 pts	Contains an in-depth and well-written analysis 21–25 pts	22
Originality	None or only minimal original thoughts included 0–15 pts	Includes original thoughts 16–20 pts	Includes original and well-reasoned thoughts 21–25 pts	18
Length	In required format, is below 15 pages (-1 for each below) 0–15 pts	Meets required format and length 20 pts	Exceeds required length without any fluff 25 pts	25
Grammar and Spelling	Contains many grammar and spelling errors (-2 for each) 0–15 pts	Contains less than 5 minor spelling and grammar errors 20 pts	Contains less than 2 minor spelling and grammar errors. 25 pts	20
Feedback	*Feedback goes here*	*Feedback goes here*	*Feedback goes here*	*Total Grade = 85*

5. Competencies Assessment and Evaluation

Table 1. Example rubric from undergraduate course on educational psychology. Rubric for the annotated bibliography.

	A	B	C	D	E
Research topic, questions and relevance (3 pts.)	The paper provides a clear, focussed description of your research topic and question(s), and discusses the relevance of your topic to education.	The paper tells the topic and lists the questions. The discussion of relevance is very broad but appropriate.	Information about the topic, research question(s) and relevance is too vague, unclear or incomplete.	Little appropriate information is given about the topic, questions or relevance.	0
References (4 pts.)	The paper gives complete bibliographic information in APA style for five relevant journal papers. No more than one paper is from a website.	The paper gives complete bibliographic information for five relevant journal papers but some or all citations are incorrectly formatted.	The paper gives incomplete or incorrect bibliographic information for five journal papers, some of which are not appropriate.	The paper gives bibliographic information for < five relevant journal papers.	0
Annotations (7 pts.)	In one page or less, the annotations identify the background or authority of the authors, summarise major themes and explain how the paper addresses your research questions.	The annotations summarise each paper but did not identify authority and/or make explicit connections to the research questions.	The annotations are either retellings of the paper, or unclear, or incomplete or off topic.	The annotations are token.	0
Implications for practice (7 pts.)	Each annotation notes practical implications for teaching that follow logically from the paper.	Practical implications are listed but more should have been noted. One or two may not follow logically from the papers.	The implications for teaching are limited, vague, distantly related to and/or in conflict with the literature.	Little accurate information is provided about teaching practices.	0
Conventions (4 pts.)	The paper has page numbers, is typed, double-spaced and well organised. All ideas are clearly articulated and carefully cited. No problems with paragraph format, spelling, punctuation, grammar, etc. Readable paper copies are attached.	A few problems with organisation, clarity or conventions should have been fixed but are not serious enough to distract the reader. Copies of each article are attached to the paper.	Numerous errors are distracting but do not interfere with meaning. Copies of some articles are attached.	Frequent problems make the paper hard to understand. Possible plagiarism risks the appearance of cheating. No copies.	0

5. Competencies Assessment and Evaluation

CRITICAL THINKING VALUE RUBRIC

for more information, please contact value@aacu.org

Association of American Colleges and Universities

Definition

Critical thinking is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.

Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (cell one) level performance.

	Capstone	Milestones		Benchmark
	4	3	2	1
Explanation of issues	Issue/problem to be considered critically is stated clearly and described comprehensively, delivering all relevant information necessary for full understanding.	Issue/problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.	Issue/problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/or backgrounds unknown.	Issue/problem to be considered critically is stated without clarification or description.
Evidence *Selecting and using information to investigate a point of view or conclusion*	Information is taken from source(s) with enough interpretation/evaluation to develop a comprehensive analysis or synthesis. Viewpoints of experts are questioned thoroughly.	Information is taken from source(s) with enough interpretation/evaluation to develop a coherent analysis or synthesis. Viewpoints of experts are subject to questioning.	Information is taken from source(s) with some interpretation/evaluation, but not enough to develop a coherent analysis or synthesis. Viewpoints of experts are taken as mostly fact, with little questioning.	Information is taken from source(s) without any interpretation/evaluation. Viewpoints of experts are taken as fact, without question.
Influence of context and assumptions	Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.	Identifies own and others' assumptions and several relevant contexts when presenting a position.	Questions some assumptions. Identifies several relevant contexts when presenting a position. May be more aware of others' assumptions than one's own (or vice versa).	Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions). Begins to identify some contexts when presenting a position.
Student's position (perspective, thesis/hypothesis)	Specific position (perspective, thesis/hypothesis) is imaginative, taking into account the complexities of an issue. Limits of position (perspective, thesis/hypothesis) are acknowledged. Others' points of view are synthesized within position (perspective, thesis/hypothesis).	Specific position (perspective, thesis/hypothesis) takes into account the complexities of an issue. Others' points of view are acknowledged within position (perspective, thesis/hypothesis).	Specific position (perspective, thesis/hypothesis) acknowledges different sides of an issue.	Specific position (perspective, thesis/hypothesis) is stated, but is simplistic and obvious.
Conclusions and related outcomes (implications and consequences)	Conclusions and related outcomes (consequences and implications) are logical and reflect student's informed evaluation and ability to place evidence and perspectives discussed in priority order.	Conclusion is logically tied to a range of information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly.	Conclusion is logically tied to information (because information is chosen to fit the desired conclusion); some related outcomes (consequences and implications) are identified clearly.	Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified.

Conclusions

- …
- …
- …

Bologna Process: Pedagogical dimension

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