PUBLIC INFORMATION AND EDUCATIONAL ENVIRONMENT AS ONE OF THE WAYS TO IMPROVE THE ICT COMPETENCE OF FUTURE SPECIALISTS

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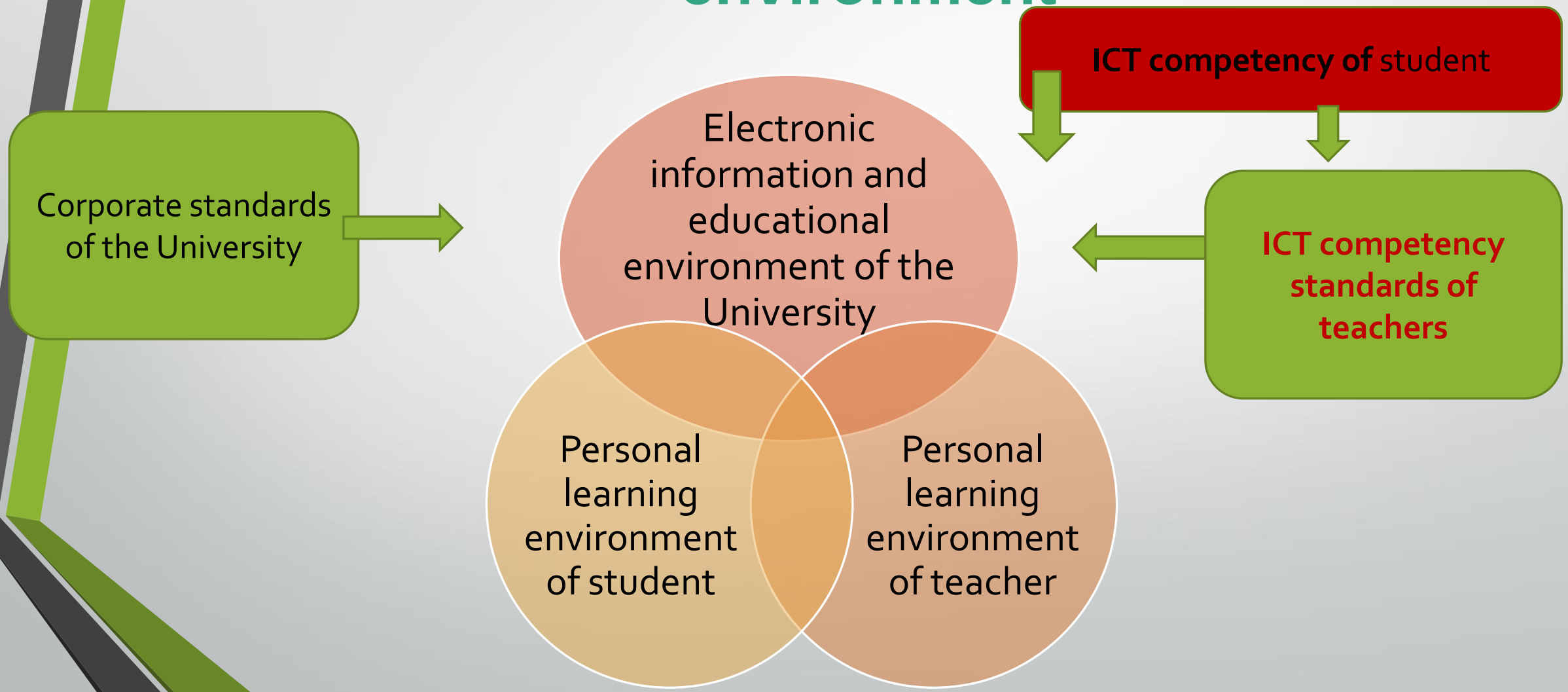
Trends in Education

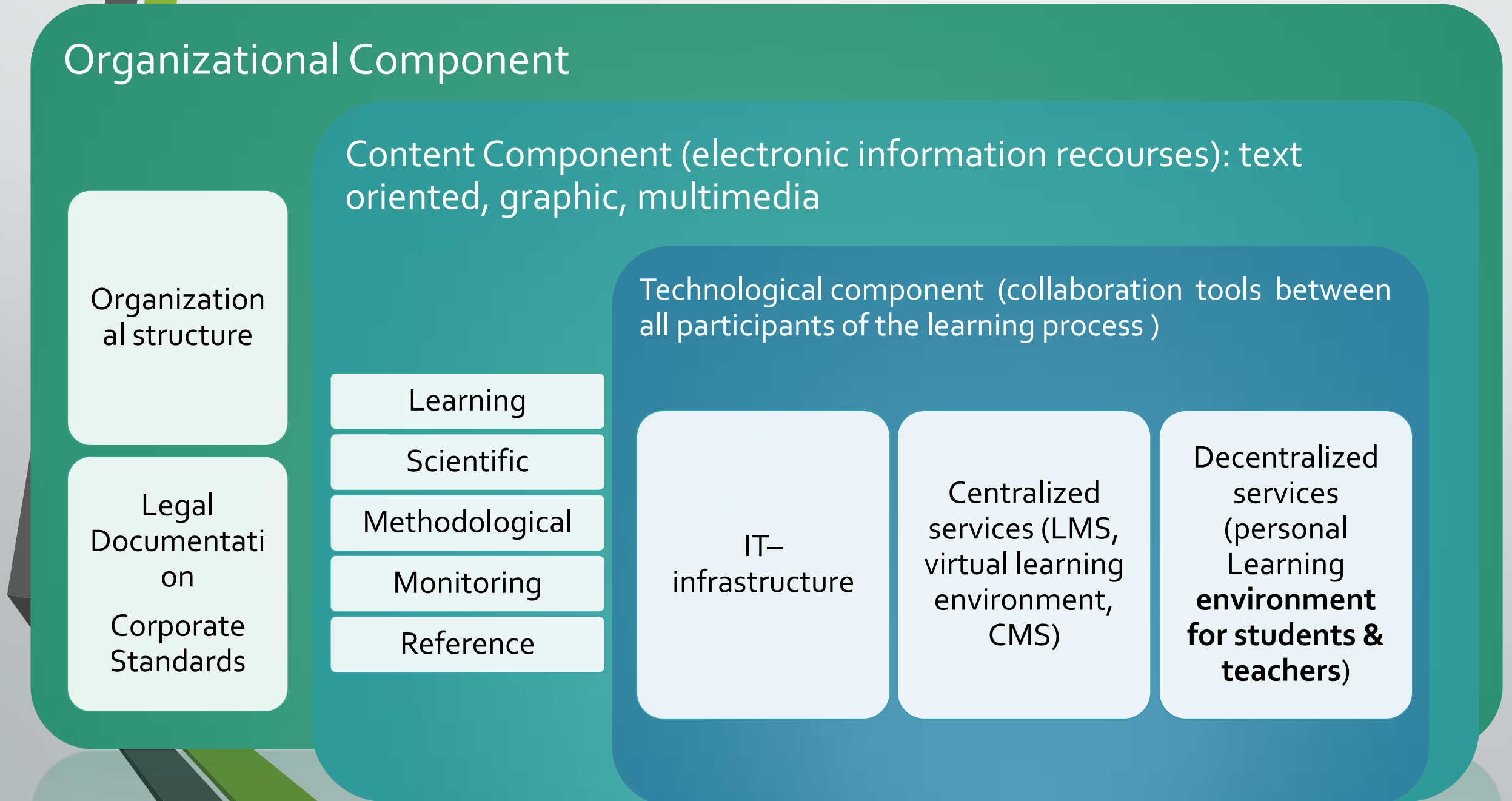
Macro-	Mezo-	Micro-
• New skills and competences • Demographic changes • Globalization	• Informal learning • Reform in education: distance learning technologies, changes in corporate training	• Informal learning, attention to the development of competencies • Increasing number of Y-generation representatives in labour market • Uneven use of technology in teaching of different generations

http://www.smart-edu.com/learning-in-europe-2020.html).

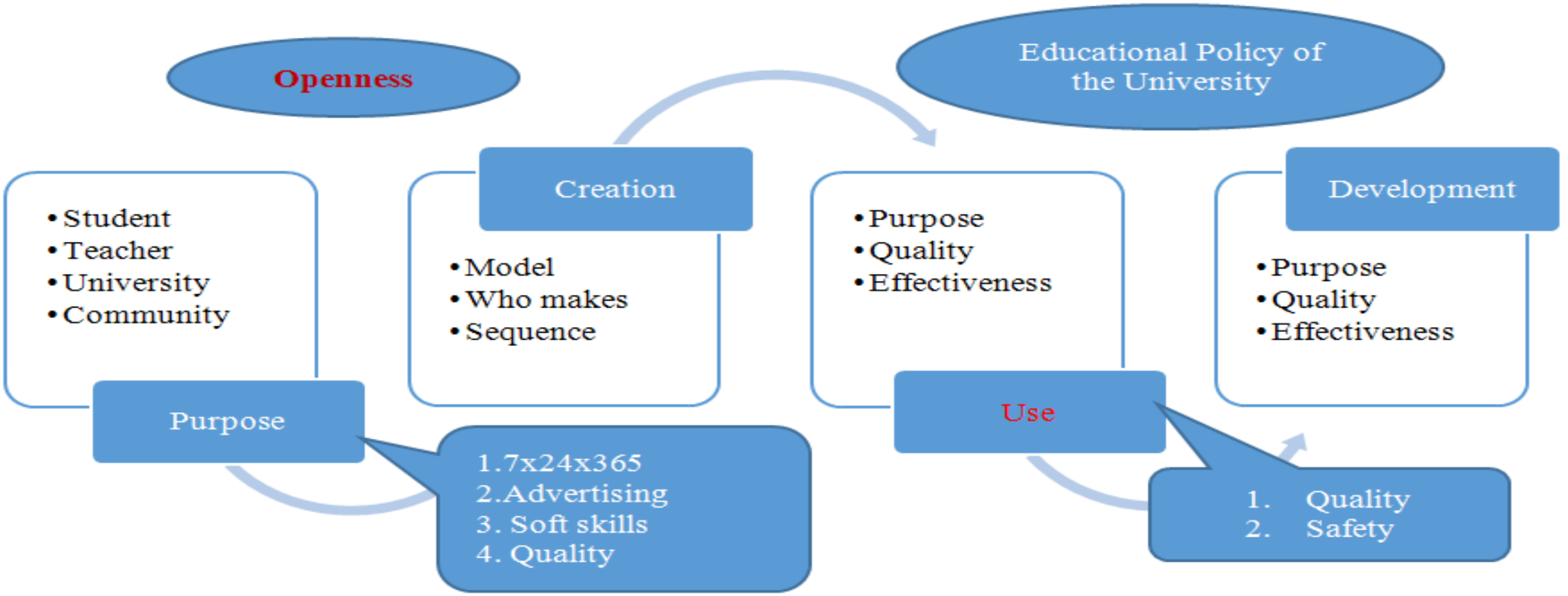
Ensuring the development of high-quality electronic information and educational environment



COMPONENTS of University Learning E-environment



The process of creating and using information and educational environment



Corporate standards - condition for the development of information and educational environment of the University

- Standards for Quality Management System
- Standards for IT and information environment
- Standards of training documentation in electronic form – Electronic Document Management
- Standards to provide additional education on the basis of DL
- Standards on scientific and methodological materials and tests
- Standards for the training
- Standards for organization of scientific activity
- **ICT competency standards of teacher and student**
- Standards for e-content and e-learning environment
- Standards for educational technology

Model of corporate standard of ICT competence of teaching staff

Activity	Technological literacy	Enhancing knowledge	Creating knowledge
Understanding the role of ICT in education and their use	Familiarity with education policy	Understanding educational policy	Innovation in education
ICT	Basic tools	Advanced tools	New technologies
Educational work	Basic knowledge: fragmented ICT use in education	Application of knowledge: systematic use of ICT in education	Skills knowledge of society
Scientific activities	Basic knowledge of scientific communication	The use of scientific knowledge (incl. virtual) electronic communications and scientific cooperation	Skills implementing research projects
Advanced training	ICT literacy: formal training in ICT	Management and direction: informal ICT learning	The teacher as an exemplary student: study on public courses (eg, MOOC)

ICT competence Model of student

Levels Aspects of Masters	Basic (basic knowledge and skills to meet the needs of their own cognitive)	Advanced (to meet the challenges of educational, scientific, social, cultural and practical nature)	Professional (component of professional competence to solve professional tasks)
Exploring ICT	Basic knowledge and skills Basic tools	Advanced Knowledge and skills Complex tools	Ability to self-education in ICT
Educational Activities	Application of knowledge and skills	Solving Competence Tasks of educational nature	The solution of the tasks of the competent professional designation
Research activities	The use of scientific communication	Scientific cooperation The ability of application of e-Science	Presentation of research results in the form of research project
Social and cultural activities	Knowledge and skills of citizen knowledge society	Solving Competence general tasks	Submission of Portfolios

Even the formation of the ICT competence of students

Department of Computer Science and the Department of Information Technology and Mathematical sciences

producing department

BASE

1st level, corresponding 1st bachelor year– changes in the curriculum in computer science

ADVANCED

2nd level, corresponding 4th bachelor year, or early education in magistracy

PROFESSIONAL

3rd level, 2nd master year – a component of professional competence - Master

Monitoring Tools of formation of ICT competence of student

Basic level (first year undergraduate)	• Test of general purpose software • Tests after studying Microsoft IT-Academy courses, obtaining appropriate certifications from Microsoft (including international standard)
Advanced level (bachelor)	• The content of personal electronic learning environment of master and its compliance with the criteria • A set of competency objectives, system and evaluation instruments for solving them
Professional level (magistracy)	• Master Portfolio and its compliance with the developed requirements • Master's thesis and its relevance to the developed requirements for registration and submission

Monitoring of forming basic level of ICT competency 1 year

Formation of basic ICT competence 1 year University students (%)					
Institution	high (45-50 points)	sufficient (35-44 points)	satisfactory (25-34 points)	low (15-24 points)	zero (0-14 points)
Humanitarian	1	44	52	3	0
Human	0	26	57	12	5
Art	0	30	46	23	1
Society	0	41	51	6	2
Pedagogical	0	23	66	10	1
University	0,8	32,4	54,4	10,6	1,8

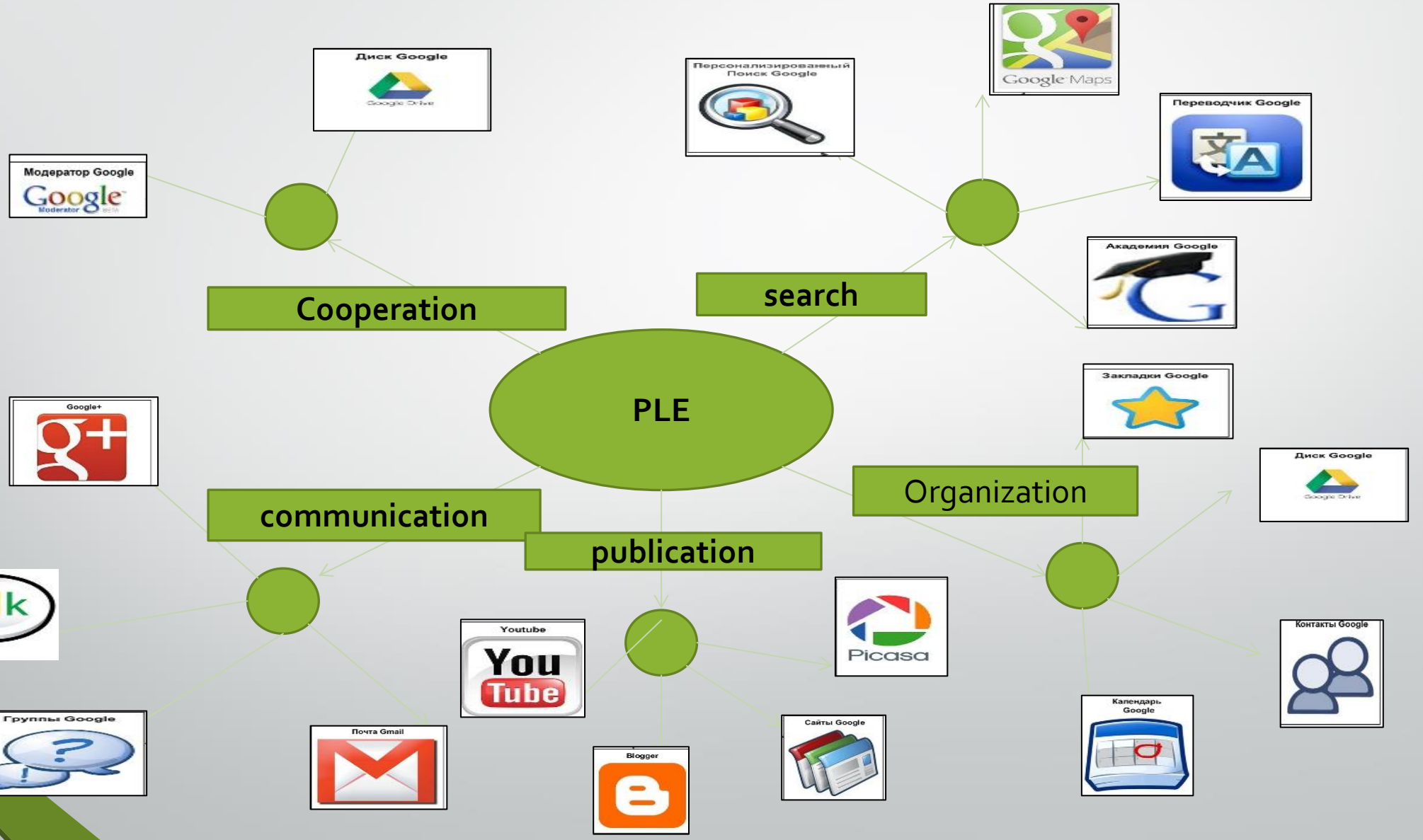
Monitoring formation of baseline ICT competence 5th year

Formation of basic ICT competence 5 year University students (%)					
Institution	high (45-50 points)	sufficient (35-44 points)	satisfactory (25-34 points)	low (15-24 points)	zero (0-14 points)
Humanitarian	0	62	33	4	1
Human	0	53	38	9	0
Art	0	39	43	14	4
Society	2	51	28	15	4
Pedagogical	3	74	24	0	0
University	1	55,7	33,2	8,3	1,8

Conditions for raising the basic level of forming ICT competence

- Training and exams in the IT Academy: obtaining certificates, including the international sample)
- Competency solving problems (educational, research and professional)
- Specifying the position of special course for Masters “Presentation of science activities of masters through ICT”

Student's Personal Learning E-environment



Main Components Of A Student's Personal Electronic Environment

- Collaboration
- Organization
- Search
- Communication
- Monitoring
- Publication

Classification Of The Most Popular Tools For Activities

Group of tools for students

- **Organization**
  - Moodle
  - Edmodo
  - Coursera
  - Khan Academy
- **Search**
  - Google Search
  - Feedly
  - Google Scholar
  - Google Maps
  - Google Translate
- **Publication**
  - YouTube
  - Services of sharing images:
    - Instagram
    - Picasa
    - Flickr
- **Collaboration**
  - Evernote
  - OneNote
  - Google Docs
  - Wikipedia
  - Adobe Connect
  - Popplet
  - PB Works
  - Blackboard Collaborate
- **Communication**
  - Social Network:
    - Facebook
    - Google+& Hangouts
    - Twitter
    - LinkedIn
    - Yammer
  - Email
  - Skype
- **Cloud storage services**
  - SkyDrive
  - Google Drive
  - Dropbox

Source: Own work based on annual list compiled by Jane Hart from the votes of learning professionals worldwide,2013

Relationship Of University's And Student's Electronic Educational Environment

Electronic content	Electronic communication	Educational targets
Modern web-services	Collaboration	Monitoring of a personal academic progress
Software applications	Solving educational and scientific problems	E-portfolio, electronic library, educational and scientific projects

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THANK YOU FOR ATTENTION!

QUESTIONS?