

INFORMATION HORIZONS MAPPING FOR INFORMATION LITERACY



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STRUCTURE

- Information literacy – research based on evidence and experience
- Study of doctoral students – information horizons methodology, phenomenography
- Results: analyses – metaphors, examples
- Three patterns of information use
- Recommendations
- Conclusions

OBJECTIVES

- What can we learn about information literacy with the use of graphical representations of information landscapes of users ?
 - How is information use experienced?
 - Which patterns can we identify in information strategies of PhD. students?
 - Which metaphors hidden in information horizons are useful for information literacy research?

BACKGROUND

- Larger project – information behavior of PhD. students: a qualitative study
 - 19 doctoral students
 - Semi-structured interviews
 - Information horizons: maps of resources
 - drawings
- *Differences between disciplines and individuals*

METHODOLOGY OF INFORMATION HORIZONS

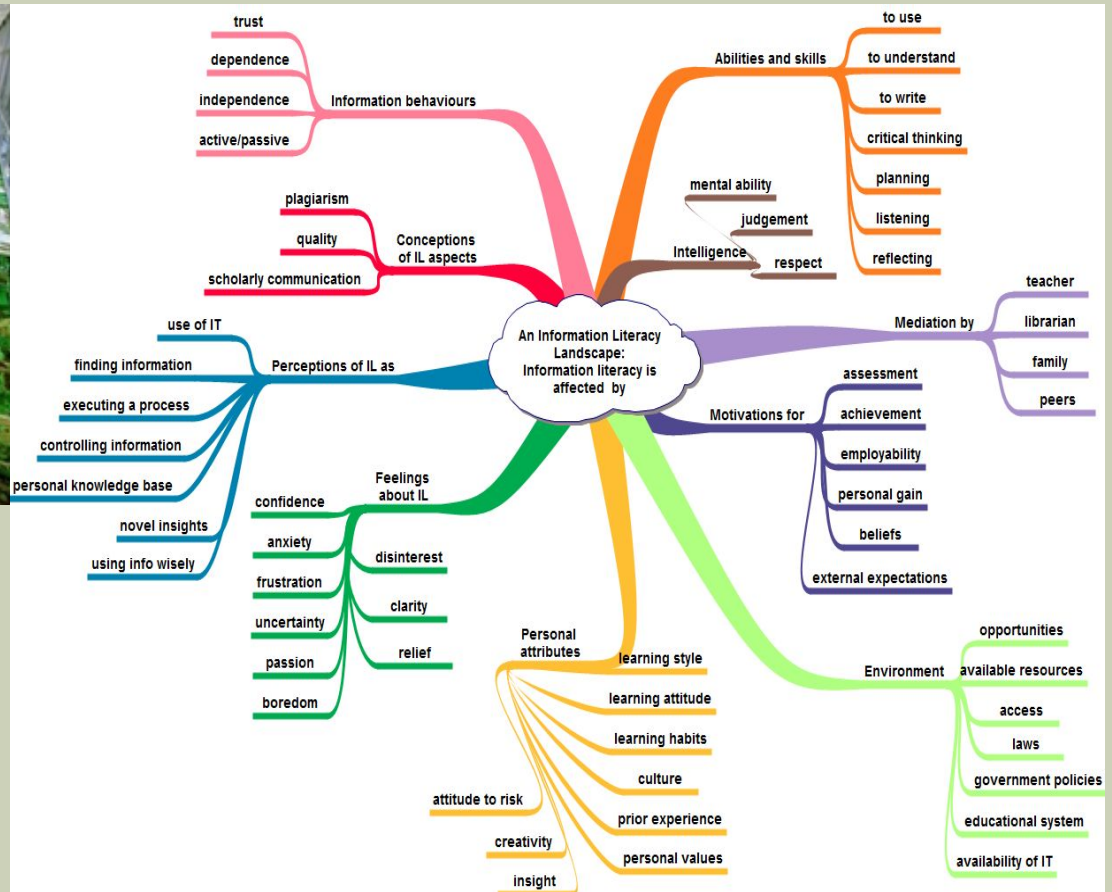
■ Information horizon:

- *A map of resources, relations, social networks, people – for information use*
- *Holistic picture of information environment, information landscape – determined cognitively, emotionally, socially*
- Tradition in information science: e.g. *Sonnenwald et al.*, *Erdelez et al.*
- **Visual dimension of information** (Hartel), data visualization techniques

PHENOMENOGRAPHY IN INFORMATION LITERACY

- Differences in experiencing the phenomenon:
- information landscape, information environment
 - Personal view – idea, visualization
- Related research in information science:
 - *Phenomenography, information experience, informed learning, Limberg, Bruce et al.,*
 - *Information practice, culture: Webber, Johnston,*
 - *information landscape: Lloyd, Whitworth*

INFORMATION LANDSCAPE



STUDY: DOCTORAL STUDENTS

- Information horizons – part of semi-structured interviews (19 students)
- 17 information horizons
- Demographics:
 - Sample: 4 selected universities in Slovakia
 - Representatives of main traditional disciplines (e.g. *philosophy, medicine, law, informatics, physics*)
 - age: average 26,5, 9 males, 8 females, SSH: 9, NS:4, TS:4

ANALYSES: INFORMATION HORIZONS MATRIX

	Frequency of Attributes			
Gender	F-8	M-9		
Year of Study	1-5	2-2	3-6	4-4
Research Domain	SH-9	NS-4	T-4	
Type of Research	ER-7	TR-7	C-3	
Predominant IR (E vs P)	E-11	P-3	B-3	
Predominant IR (IR vs H)	IR-10	H-4	B-3	

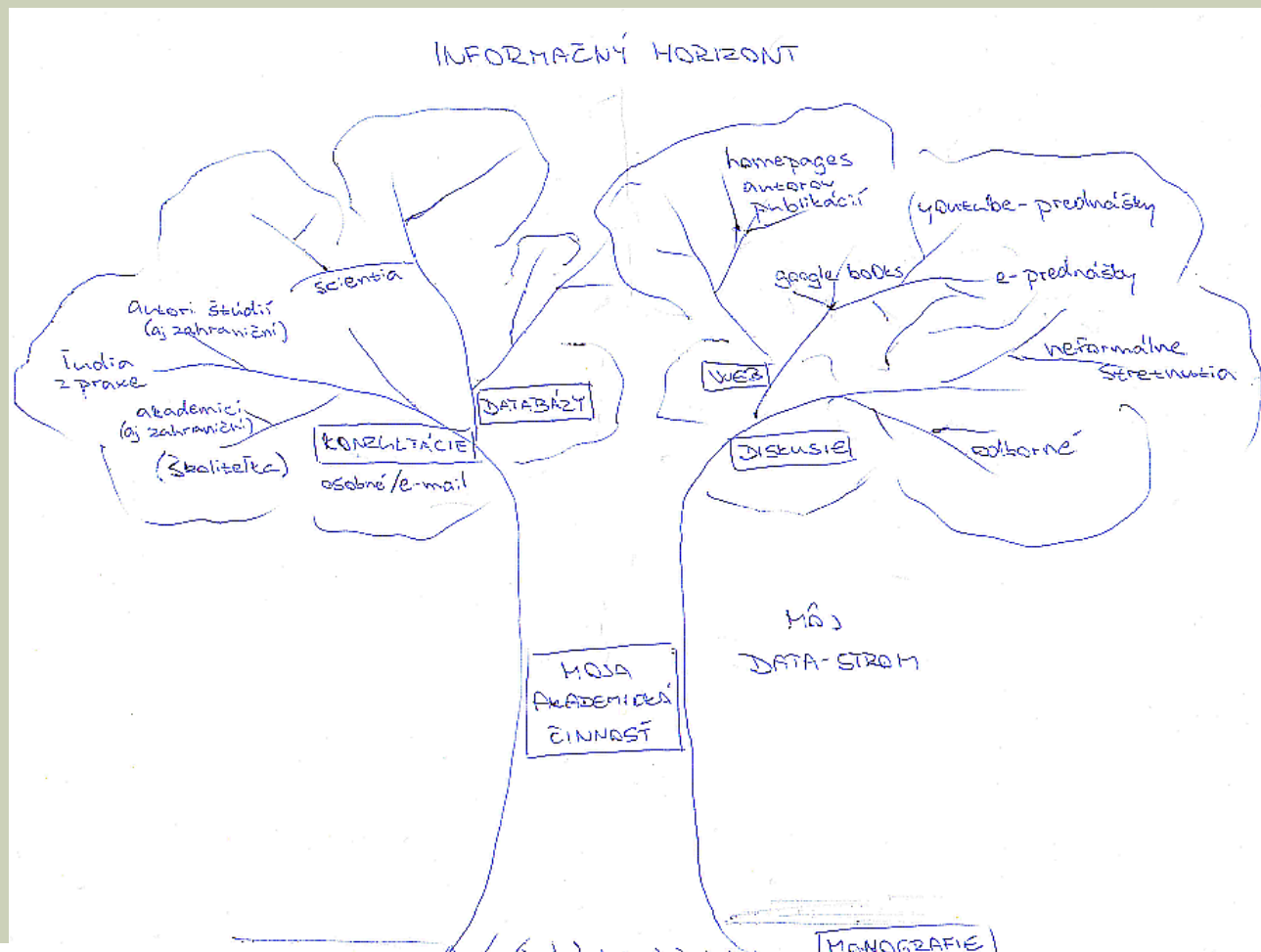
ANALYSES: CONCEPTS - TABLES

	1	2	3	4	5	6	7	8	9	11	12	14	15	16	17	18	19	Fqn	Wgt
Library	1								3		1					2		4	1,75
	1								1		1					2			1,25
Books	1	2	1	2				2	1	2	1	3	2		1	2	1	13	1,62
	1	2	1	1				1	2	1	1	2	1		1	3	1		1,38
Journal Articles	1	2		2	1	1	2		3		2	2	2		2	2	1	13	1,77
	1	2		1	1	1	1		2		1	2	1		1	2	2		1,38
Electronic IR (Full-texts)	1	3	2	3		2	1		3	2	2				2			9	2,33
	1	1	2	2		2	1		2	1	1				1				1,56
Internet – WWW – Google	1	3	2	3		2	1	1	2		1		1		2	2	3	13	1,85
	1	1	2	2		2	1	1	1		1		1		1	1	5		1,54
Social Networks	3						1		3						2			4	2,25
	4						1		2						1				2,00
Advisor	2	1	2		2	2	2		3	1		1	1			1		11	1,64
	2	1	2		1	1	1		1	1		1	1			1			1,18
Colleagues (Work)	2		2		2	2	1	2	3	2	1	2	1		1	1		13	1,69
	3		2		1	2	1	1	1	1	1	2	1		1	2			1,46
Colleagues (PhD. Students)	2		2			2	2	2	3	3		2	1		2			10	2,20
	2		2			2	1	1	1	1		2	1		1				1,40
Friends	3		3															2	3,00
	4		3																3,50
Other		3	2	1	2	2	1	2	3	3	1	2	2		2	2		14	2,00
		2	3	1	1	3	1	1	2	1	1	2	1		1	3			1,64

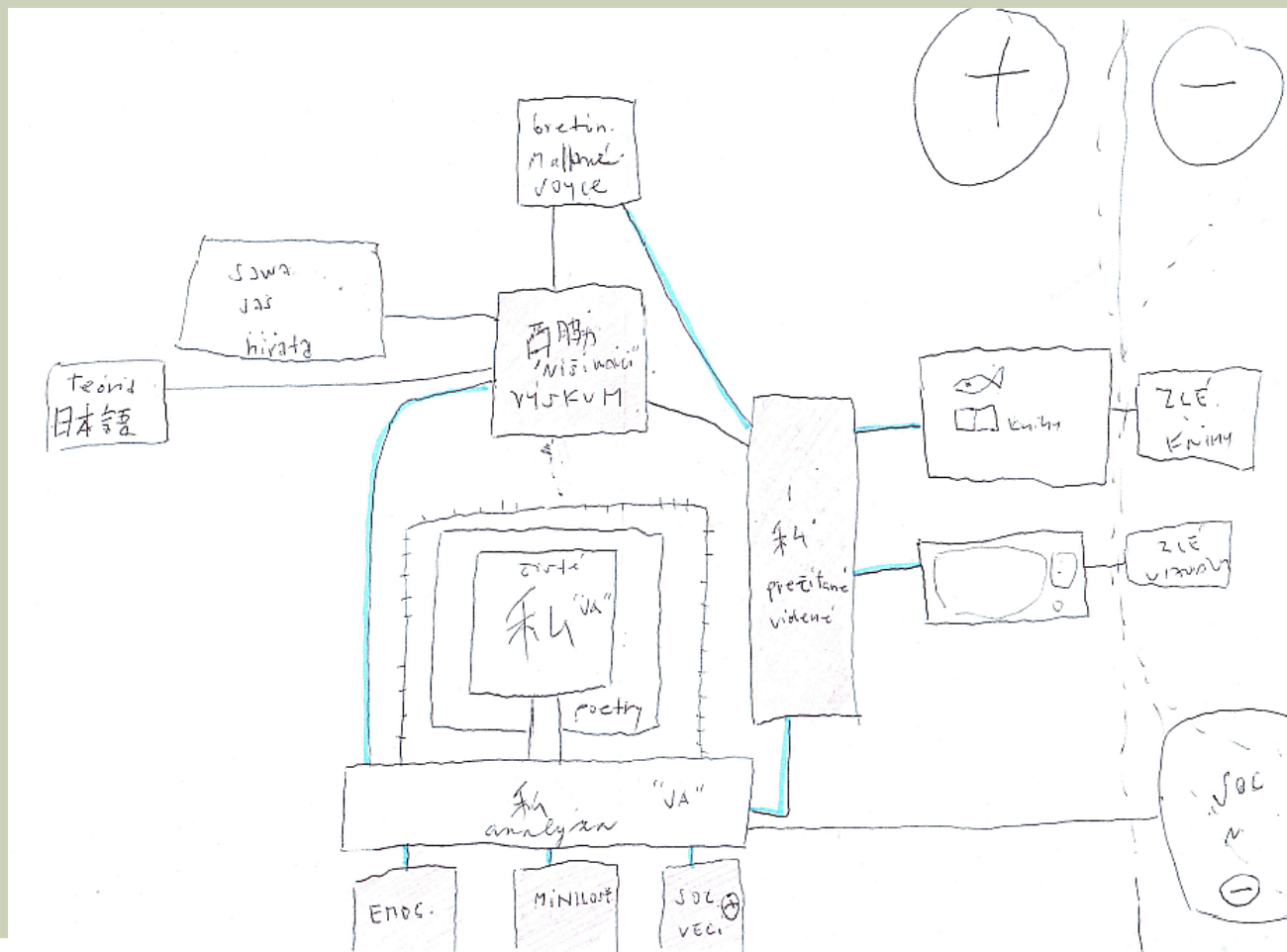
STUDY: INFORMATION HORIZONS - RESULTS

- **Priorities:**
 - People: Advisors/ experts, colleagues – closest relationships
 - Electronic resources – empirical sciences, technical sciences
- **Documents – most important:**
 - From reference resources to primary documents
- **Information strategies:**
 - *Browsing, filtering, monitoring, citation chaining*
- **High granularity (categorization): *social sciences, humanities***

INFORMATION HORIZONS: EXAMPLES



INFORMATION HORIZONS: EXAMPLES



INFORMATION HORIZONS: METAPHORS

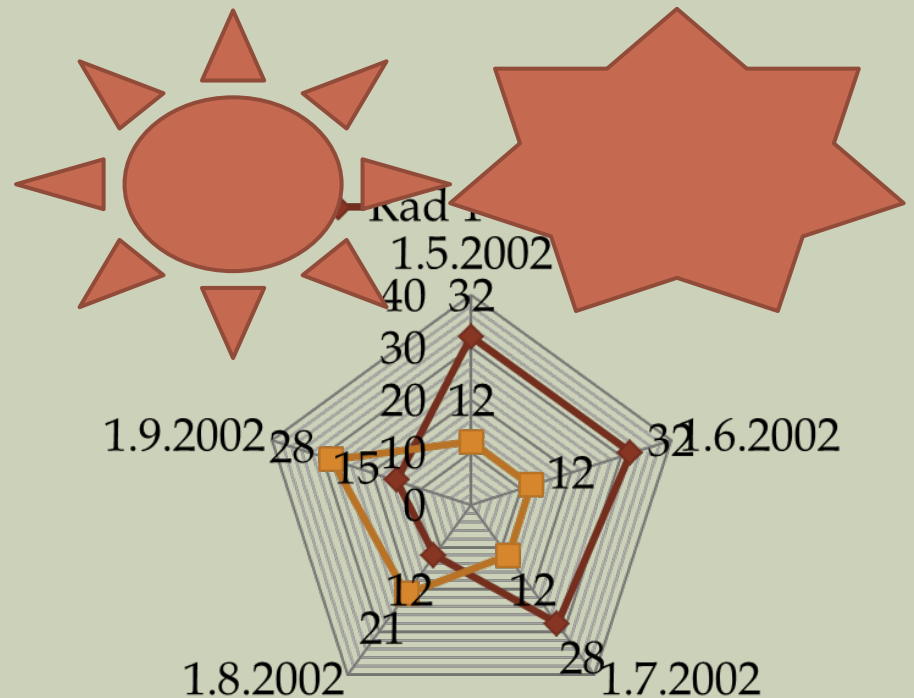
- Informal resources: e.g. *pub, concert, media*
- Special resources: e.g. *citations, e-lectures, technical information, court documents, mathematic exercises*
- metaphors analyzed:
 - *Problem solving area,*
 - *complex interactions („sun“),*
 - *knowledge „pool“,*
 - *„integrated circuit“,*
 - *„tree of knowledge“ – knowledge growth*

RESULTS: INFORMATION HORIZONS: PATTERNS

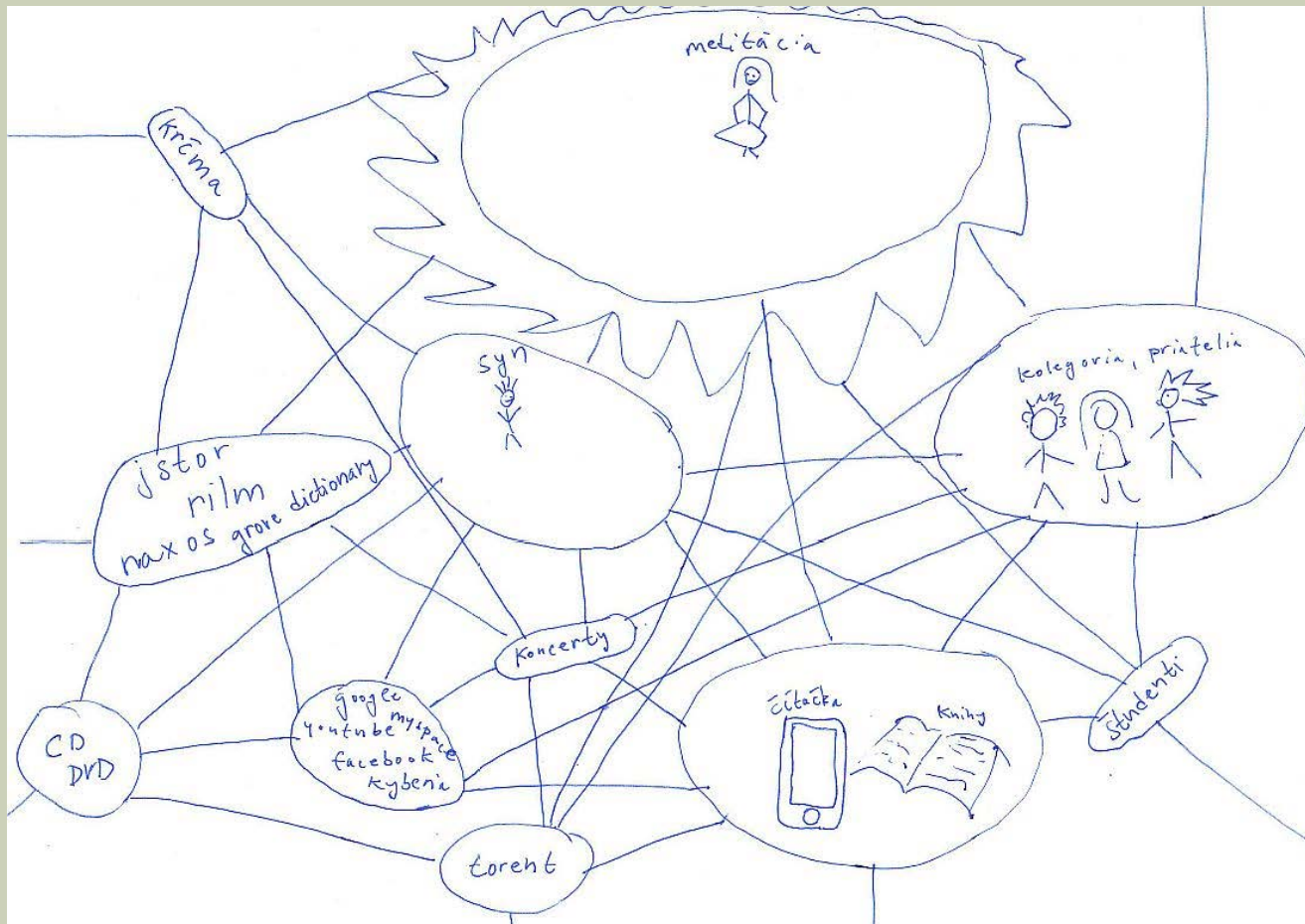
Information patterns	Metaphors	Relations	Activities
Evolutionary	Steps, knowledge tree, Fan, plus, spiral, sun, globe of knowledge	Levels, strata, hierarchy, branching	Evolution, growth, discovery, adding,
Interactional	Centristic, star, information pool, integrated circuit, confluence, sun	Hierarchy, oriented relations, associations	Multiple interactions, filtering, selection, networking
Sequential	Problem solving, figure, steps	Successive phases Chaining, chunks	From reference sources, from Google, from me, citation chaining

INTERACTIONAL PATTERN

- Multiple interactions, directed linking with resources
- Finding context, making sense
- E.g. *multiple loops*, „*sun*“
- *Natural sciences, social sciences*



EXAMPLE – INTERACTIONAL PATTERN



SEQUENTIAL, PROCESSUAL PATTERN

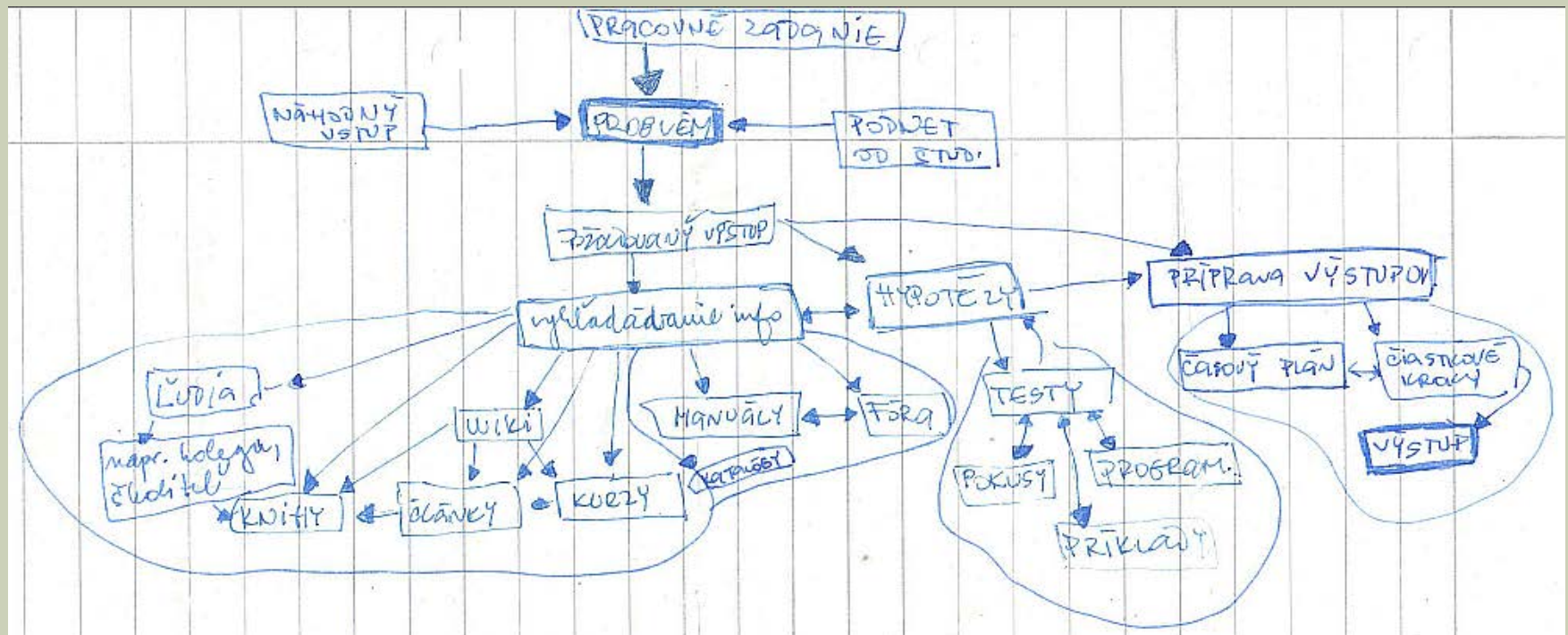
- Information problem solving
- Information process:
- *Filtering, chaining*



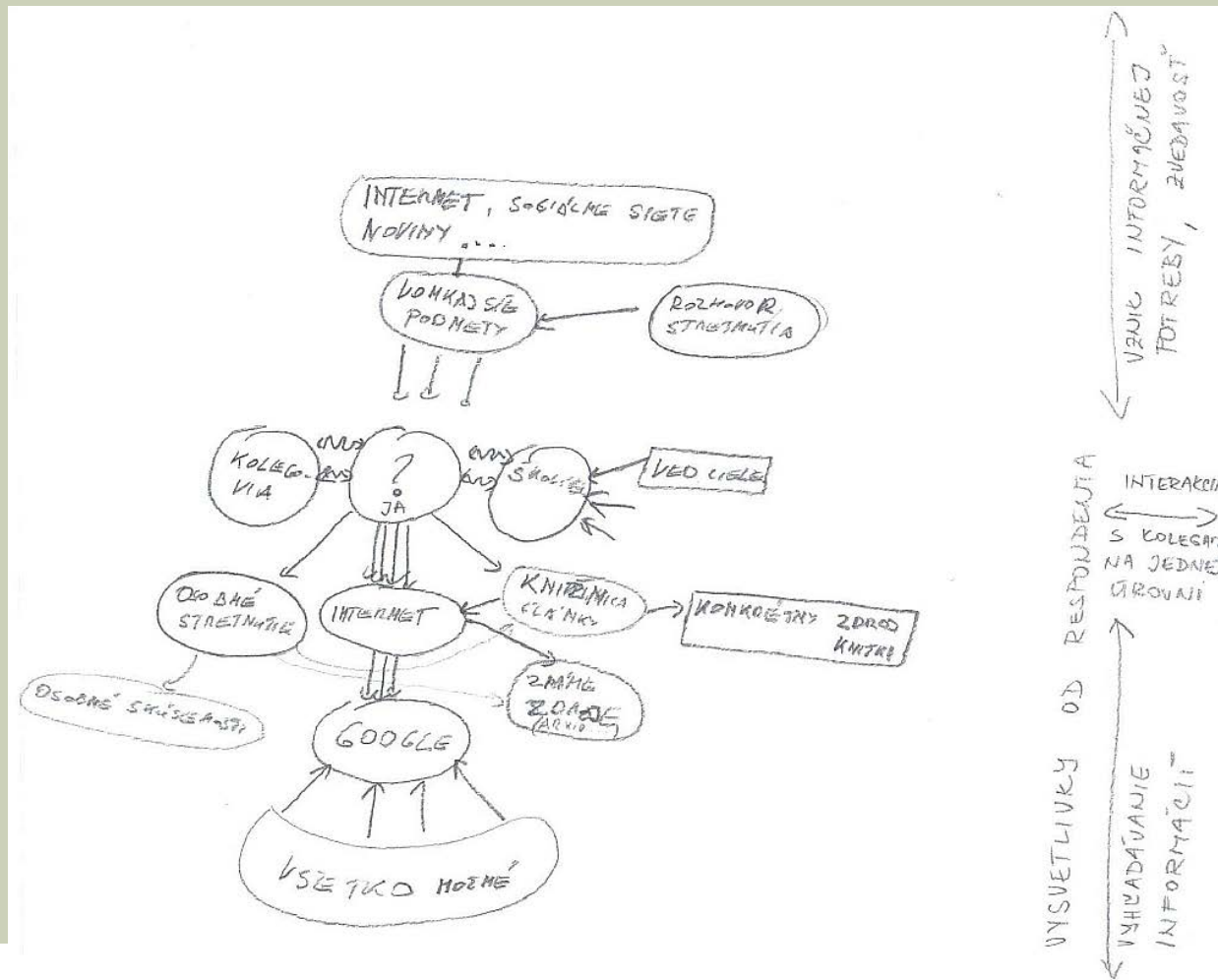
- Technical sciences
- sciences



SEQUENTIAL PATTERN - EXAMPLE

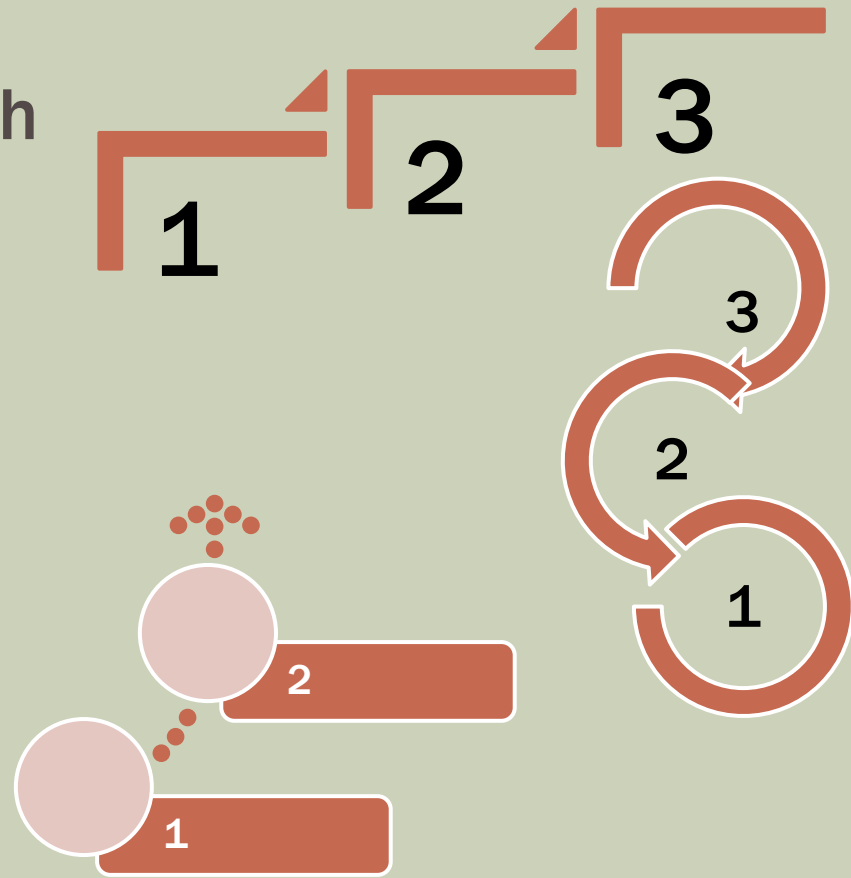


SEQUENTIAL PATTERN - EXAMPLE

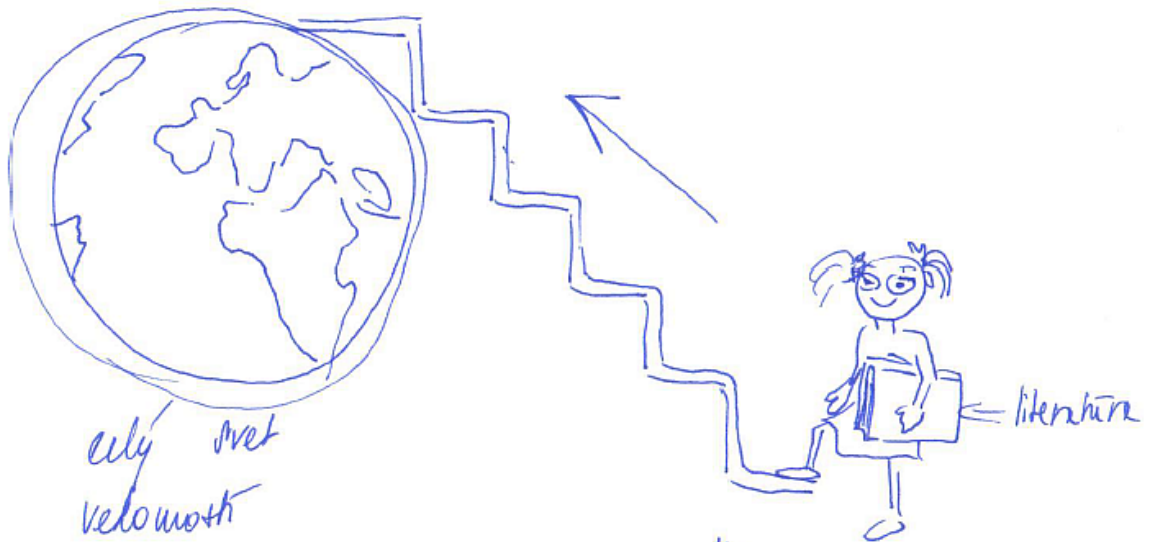
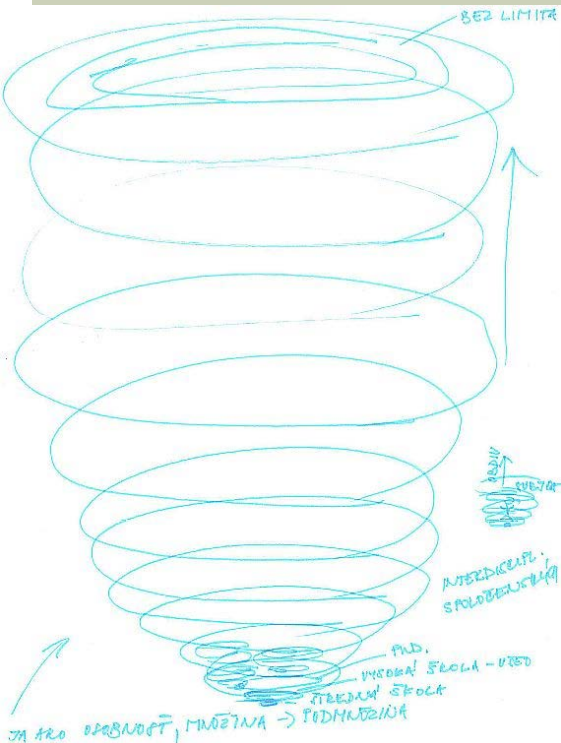


EVOLUTIONARY PATTERN

- Knowledge growth
- Learning
- Understanding,
 - Cognitive development
- *Steps, spiral*
- *Humanities and social sciences*



EVOLUTIONARY PATTERNS - EXAMPLE



+ "internet" етк бу етк на "договор"

DIFFERENCES IN INFORMATION STRATEGIES

- **Sciences, natural sciences:**
 - *Monitoring – key authorities: electronic journals, experts*
- **Technical sciences:**
 - Electronic resources, Information problem solving, common spaces (collaboratories)

- **Social sciences:**
 - *Monographs, deep categorization of information / resources*
- **Humanities:**
 - *Monographs, own knowledge and emotions, meditations, (poetry)*

RECOMMENDATIONS

■ Information literacy development

- Cognitive authorities: *advisors, known sites, useful strategies*
- Awareness of relevant (electronic) resources
- Communities – *communication, information sharing*

■ Digital services and digital libraries – information ecology

- *Interactive interfaces: interactional patterns*
- *Concept mapping and terminological development*
- *Navigation, categorization*
- *Social networks*

CONCLUSIONS

- **Information literacy in research and education - part of information culture**
- **Expand to personal knowledge development and personal information management**
- **Expand to workplace and worldview**
- **Value for the community**
- **Ethical implications – information use and production**

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