Didactic principles of information literacy for young scientists

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The more we study,
the more we know
the more we know,
the more we forget,
the more we forget,
the less we know,
why do we study?
I don't know.

Knowledge is of two kinds: we know a subject ourselves, or we know where we can find information upon it.

Samuel Johnson, 1709-1784

Common denominator

Young scientists + IL educators + librarians

_____

?

How big is your data – really ?

H/T to David Wellman @ Myriad Genetics

Byte of data:	one grain of rice
Kilobyte:	cup of rice
Megabyte:	8 bags of rice
Gigabyte:	3 container lorries
Terabyte:	2 container ships
Petabyte:	covers Manhattan
Exabyte:	covers the UK (3 times)
Zettabyte:	fills the Pacific ocean

Faculties

- [Catholic Theological Faculty](#)
- [Protestant Theological Faculty](#)
- [Hussite Theological Faculty](#)
- [Faculty of Law](#)
- [First Faculty of Medicine](#)
- [Second Faculty of Medicine](#)
- [Third Faculty of Medicine](#)
- [Faculty of Medicine in Plzeň](#)
- [Faculty of Medicine in Hradec Králové](#)

Faculties

- [Faculty of Pharmacy in Hradec Králové](#)
- [Faculty of Arts](#)
- [Faculty of Science](#)
- [Faculty of Mathematics and Physics](#)
- [Faculty of Education](#)
- [Faculty of Social Sciences](#)
- [Faculty of Physical Education and Sport](#)
- [Faculty of Humanities](#)

University Institutes

- [Institute of the History of Charles University and Archive of Charles University](#)
- [Center for Theoretical Study](#)
- [Center for Economic Research and Graduate Education](#)
- [Environment Center](#)

Other Units

- [Computer Science Centre](#)
- [Institute for Language and Preparatory Studies](#)
- [Central Library of Charles University](#)
- [Centre for Transfer of Knowledge and Technology](#)
- [Agency of the Council of Higher Education Institutions](#)

Services Facilities

- [Dormitories and Refectories](#)
- [Archbishop's Seminary](#)
- [Karolinum Press](#)
- [Premises and Facilities Administration](#)
- [Sports Centre](#)

"TTD"

Charles University is currently home to more than 53,000 students - about one-sixth of all people studying in the Czech Republic.

It offers over 300 accredited degree programmes in 642 fields

"TTD"

more than 20,000 undergraduates are studying for Bachelor's degrees,

with almost 25,000 students enrolled in Master's programmes

"TTD"

and 8,000 in doctoral programmes.

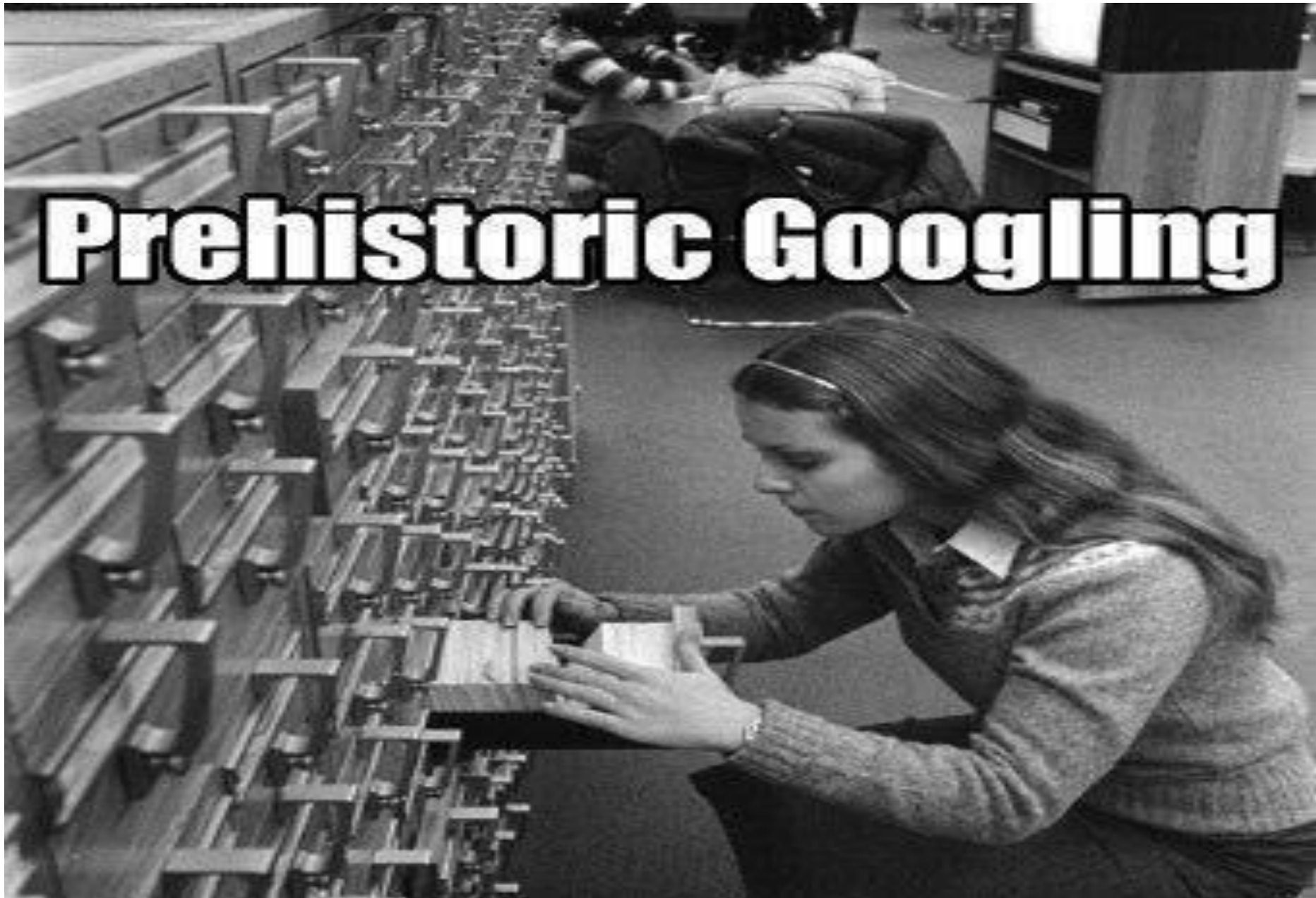More than 7,000 of the University's students come from abroad.

"TTD"

Every year almost 9,000 people graduate from Charles University; our graduates traditionally enjoy one of the highest employment rates of any population segment in the Czech Republic.

Every year, a further 16,000 people complete one or more of the University's various lifelong learning courses.

Charles University is one of the best-performing educational institutions in the Czech Republic. According to the **Academic Ranking of World Universities**, it ranks among the top 2 per cent of higher education institutions worldwide.

… So how can we start with the IL?

Prehistoric Googling

LOADING
PLEASE WAIT...

outside of university, e.g. high school students
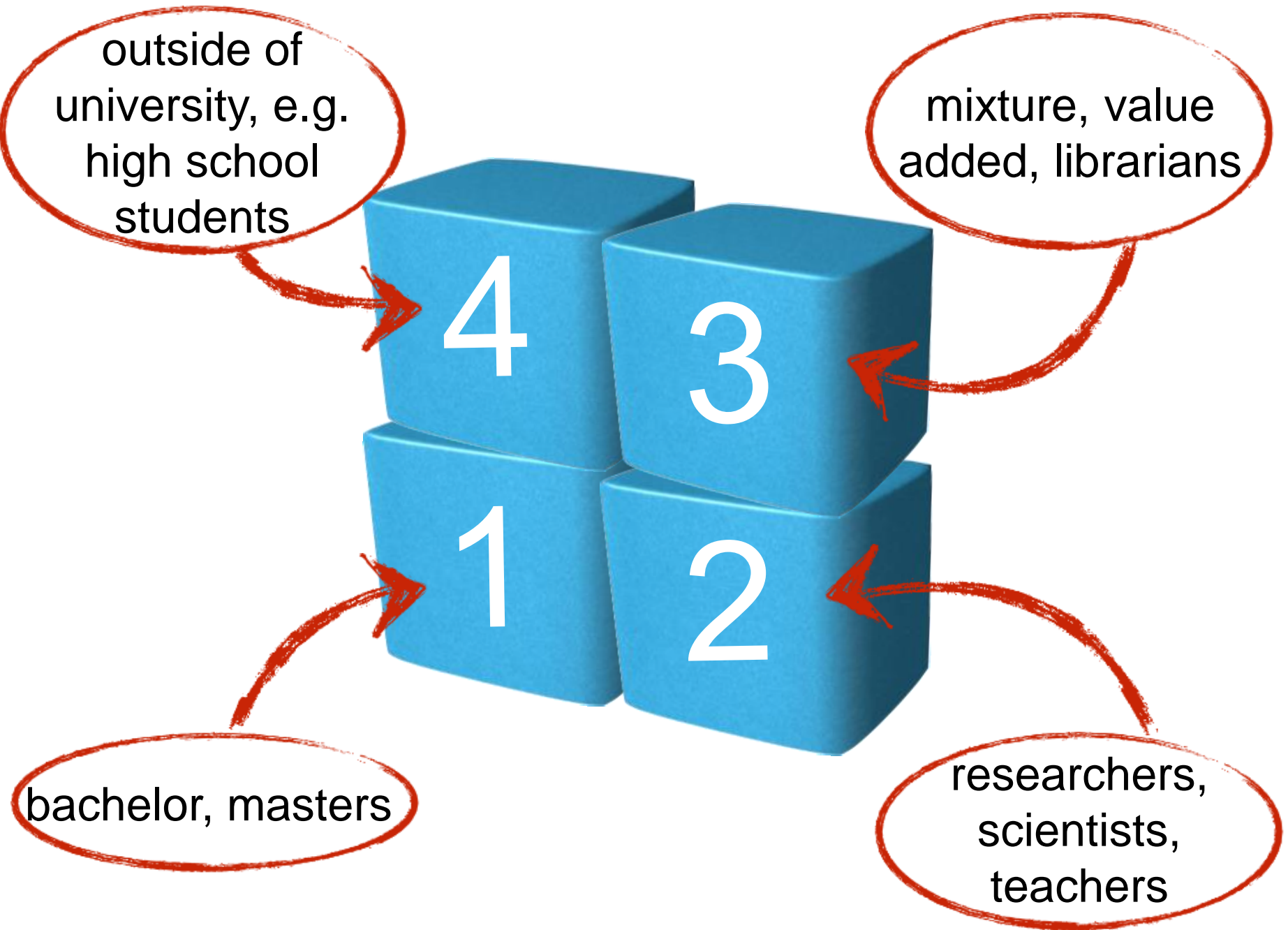
mixture, value added, librarians

4

3

1

2

bachelor, masters

researchers, scientists, teachers

Inspiration from EBM (*evidence-based medicine?*)

Information services, such is information literacy?

1. Pull
2. Push
3. **Prompt**

Frontal teaching

E-learning, online learning

Blended learning

OVID

EMBiology
1980 - 2006 Week 11

ovid web gateway

| ? Help | LOGOFF

| Saved Searches/Alerts

#	Search History	Results	Display
1	in silico.mp. [mp=title, abstract, subject headings, heading word, original title]	1716	DISPLAY
2	"in silico".mp. [mp=title, abstract, subject headings, heading word, original title]	1716	DISPLAY
3	*"drug design"/	1108	DISPLAY
4	exp *Computer Model/	1001	DISPLAY
5	exp Computer Model/	6057	DISPLAY
6	*Computer Model/	1001	DISPLAY

CONTRACT

Combine Searches | Delete Searches | Save Search/Alert

Combine Searches

Combine a search using: [AND ▾] **CONTINUE »**

Select	#	Search History	Results
☑	1	in silico.mp. [mp=title, abstract, subject headings, heading word, original title]	1716
☐	2	"in silico".mp. [mp=title, abstract, subject headings, heading word, original title]	1716
☐	3	*"drug design"/	1108
☑	**4**	**exp *Computer Model/**	**1001**
☐	5	exp Computer Model/	6057
☐	6	*Computer Model/	1001
☑	7	(development$ or design$).mp. [mp=title, abstract, subject headings, heading word, original title]	553762

CONTRACT

? **Hints**:

- Click two or more "select" boxes
- Choose Combine with **AND** to search for the **intersection** of two or more searches.

#	Search History	Results	Display
1	in silico.mp. [mp=title, abstract, subject headings, heading word, original title]	1716	▣DISPLAY
2	"in silico".mp. [mp=title, abstract, subject headings, heading word, original title]	1716	▣DISPLAY
3	*"drug design"/	1108	▣DISPLAY
4	exp *Computer Model/	1001	▣DISPLAY
5	exp Computer Model/	6057	▣DISPLAY
6	*Computer Model/	1001	▣DISPLAY
7	(development$ or design$).mp. [mp=title, abstract, subject headings, heading word, original title]	553762	▣DISPLAY
8	**1 and 4 and 7**	**33**	▣**DISPLAY**

🔴🔵 Combine Searches ▥ Delete Searches 💾 Save Search/Alert

Accession Number	2005214319
Authors	Vedani A. Dobler M. Lill MA.
Institution	A. Vedani, Biographics Laboratory 3R, Friedensgasse 35, CH-4056 Basel; Switzerland. E-Mail: admin@biograf.ch.
Country of Publication	United States
Title	In **silico** prediction of harmful effects triggered by drugs and chemicals.
Source	Toxicology & Applied Pharmacology. Vol. 207(2 SUPPL.)(pp S398-S407), 2005. Date of Publication: 01 SEP 2005.
Local Messages	Held by Ovid Technologies
Subject Headings	*dangerous goods ***computer model** macromolecule binding site drug **design** metabolism algorithm

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Didactic principles of information literacy for young scientists, researchers and also university teachers

General principles:

Principle of activity

Principle of awareness

Principle of scientism

Didactic principles of information literacy for young scientists, researchers and also university teachers

Principle of progressiveness

Principle of the connection between theory and practice

Principle of proportionality

Didactic principles of information literacy for young scientists, researchers and also university teachers

Principle of individual approach

Principle of emotions

Principle of permanency

Didactic principles of information literacy for young scientists, researchers and also university teachers

Principle of clearness

Principle of consistency

Principle of feedback

2

International
Telecommunication
Union

الاتحاد الدولي للاتصالات

国际电信联盟

Unión
Internacional de
Telecomunicaciones

Union
Internationale des
Télécommunications

Международный
союз
электросвязи

Archive of *ITU*: http://www.itu.int/itudoc/itu-

d/wtdc/wtdc1994/speech/gore.txt

```
Remarks prepared for delivery
by U.S. Vice President Al Gore

World Telecommunication Development Conference,
Buenos Aires
Monday, March 21, 1994


        I have come here, 8,000 kilometres from
my home, to ask you to
help create a Global Information Infrastructure.
To explain why, I
want to begin by reading you something that I
first read in high
school, 30 years ago.
```
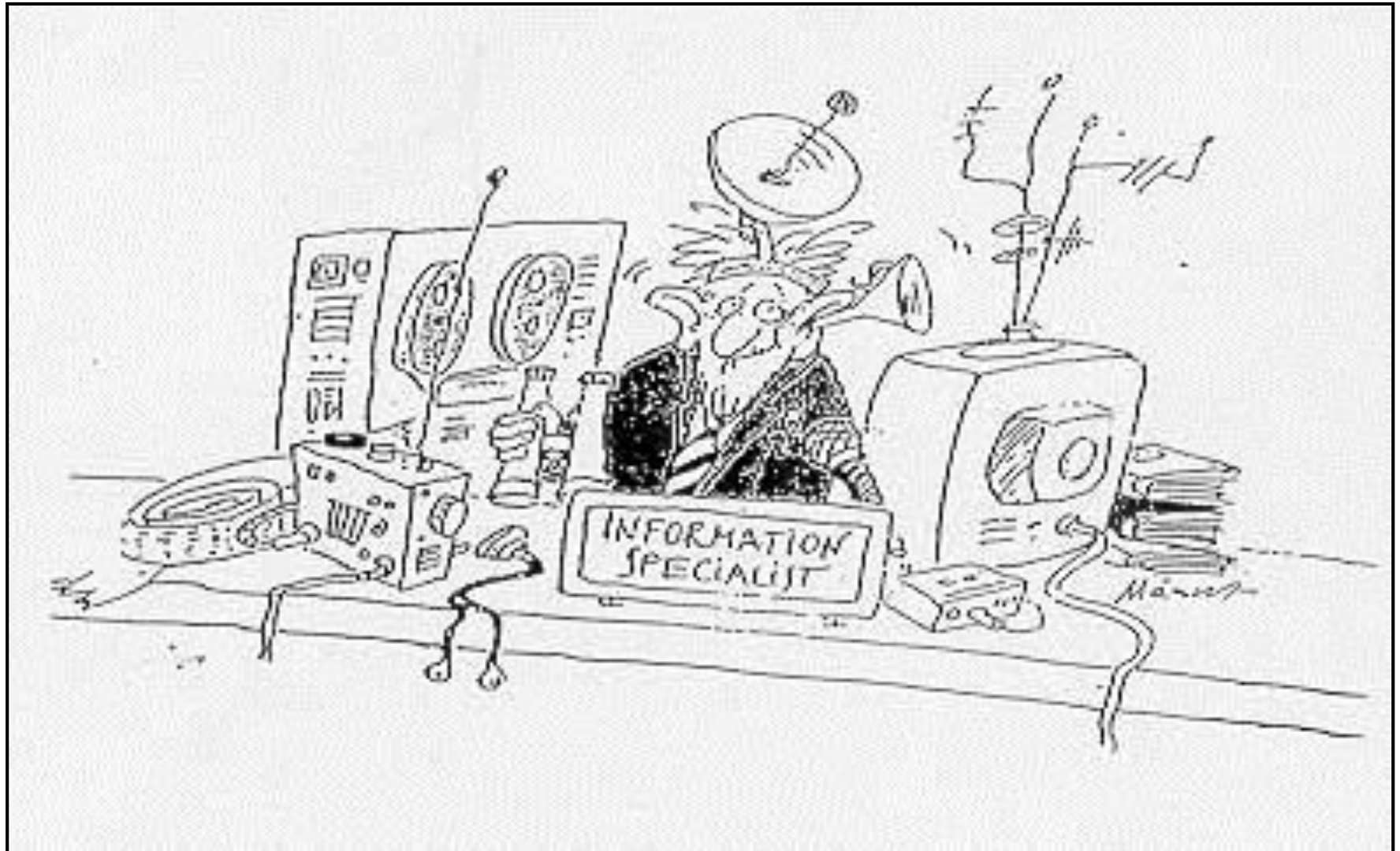
… and the end of speech

Let us seize this moment.

Let us work to link the people of the world.

Let us create this new path as we walk it together.

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- 8 -

Perspective profession: information specialist / information literacy educators

From one laboratory ;-) :

Theory is when you know everything but nothing works.

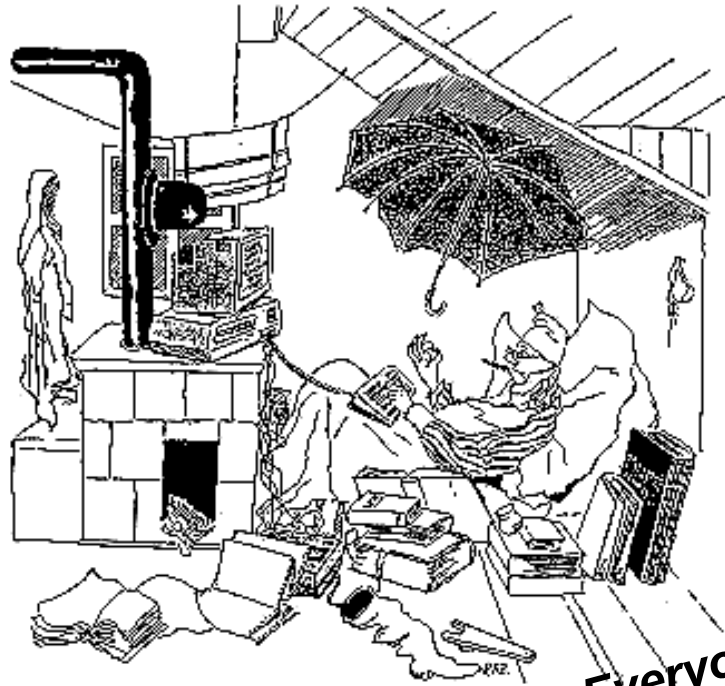Practice is when everything works but no one knows why.

In our lab, theory and practice are combined: nothing works and nobody knows why.

Literature related to didactic principles, e.g:

DOSTÁL, Jiří. *Učební pomůcky a zásada názornosti*. Olomouc : Votobia, 2008. ISBN 978-80-7220-310-9.

MALACH, Josef. *Základy didaktiky*. Ostrava : Ostravská univerzita v Ostravě, 2003. ISBN 80-7042-266-1. Kapitola Zásady procesu vyučování - učení se.

Thank you ☺

„Only librarians like to search. Everyone else likes to find."
American Library Association, Midwinter Meeting 2003, San Diego