20 Years of Computers and Informatics in Austria's (Secondary Academic) Schools

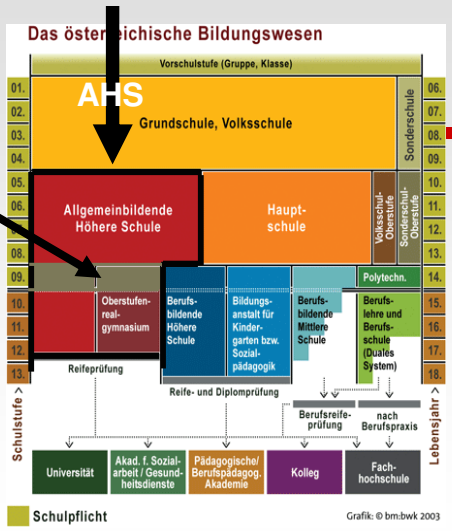
Problem: 20 years in 15 minutes!

Solutions ⇨ ICT: Let us WINZIP! **Informatics:** Let us compress!

REMINDING MEANS CHOOSING
[Günther Grass]

⇨ a necessarily very selective retrospect
[Peter Micheuz, Alpen-Adria-Gymnasium Völkermarkt]

Introduction

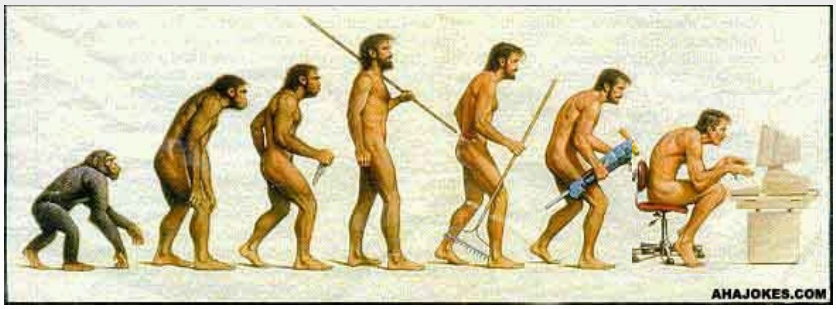


AHS (Gymnasium):
(providing general education)
from grades 5 – 12
(pupils are 10-18)

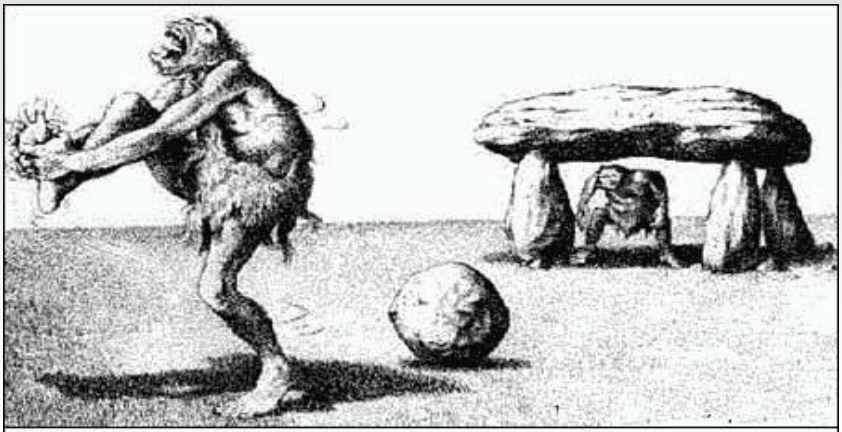
We are talking about
~200.000 of ~1.200.000
pupils/students in Austria

When do we begin?

Understandably I skip this doubtlessly interesting (pre)history



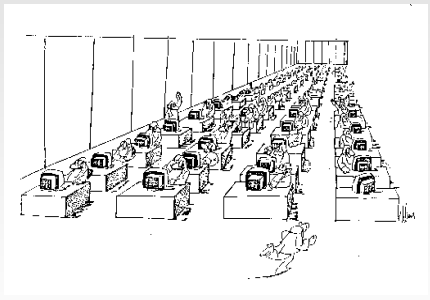
It took thousands of years to invent a usable football …



Source: Mrs. Flintstone ;-)

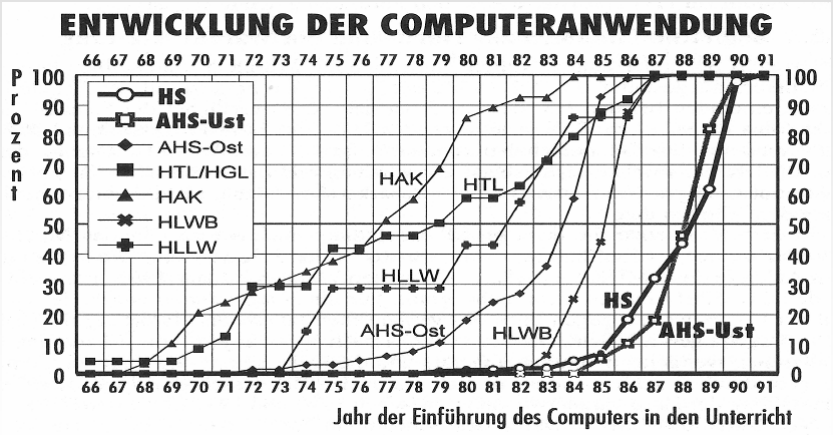
…and it will take an eternity to build in Klagenfurt a stadium for the Soccer European Championship 2008…

… and it took only 20 years to overstock schools with computers …



I think there is a world market for maybe five computers.
Thomas Watson, chairman of IBM, 1943

The very roots and single initiatives (1975 - 1985)



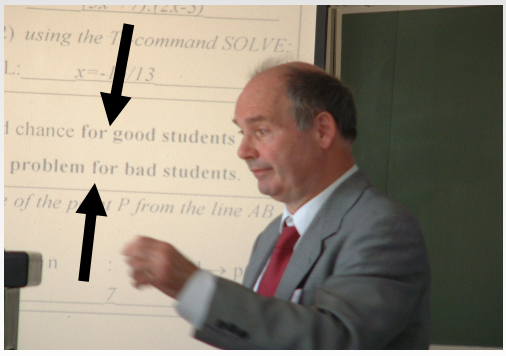
Source: Haider G., Schule und Computer, 1994

The very roots and single initiatives (1975 - 1985)

- Time of pioneers and „idealists"
- Teachers and students as „adventurers"
  lived **for** Informatics, today they live **from** Informatics
- Computers were single and exotic machines in schools
  for some teachers this has not really changed till today
- In-service computer training was centralized in Graz, Kepler-Gymnasium (from ~1980 on)

Mr. Otto Wurnig at the legendary courses in Graz

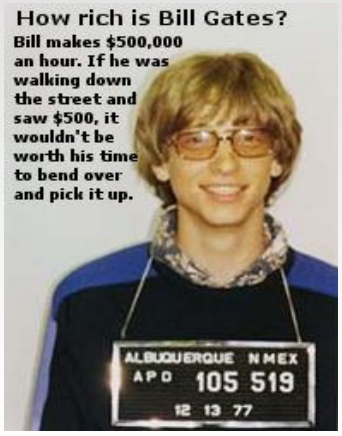
Mr. Otto Wurnig these days, retired, but not tired



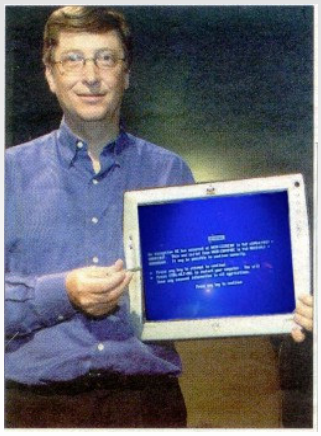
Informatics keeps young!

Or is it math again?

Other people behind (School)Informatics …



Computers make old … ;-)



The (GW)basics …

The known counting-out rhyme

```
GW-BASIC 3.23
(C) Copyright Microsoft 1983,1984,1985,1986,1987,1988
60300 Bytes free
Ok
load "josephus"
Ok
list
10 PRINT "ABZAEHLREIM"
20 DIM L(100)
40 INPUT "WIEVIELE PERSONEN?"; N : INPUT "WIEVIEL SILBEN"; M
70 FOR I=1 TO N : L(I)=I : NEXT I
100 PRINT "AUSGEZAEHLT WERDEN:"
110 H=0: X = 0:Y = 8
120 X = X + 1
130 IF X <=N THEN 150
140 X = X - N
150 IF L(X) = 0 THEN 120
160 Y = Y +1
170 IF Y < M THEN 120
180 H = H + 1 : Y = 0 : L(X)=0
220 PRINT X " " ; : GOTO 120
260 END
Ok
1List  2RUN  3LOAD"  4SAVE"  5CONT  6, "LPT1  7TRON  8TROFF
```

Unbelievable, but it works!

The time from 1985 - 2005...

The Experimental Stage (1985 – 1990)

Networking and the GUI-Era (1990 – 1995)

Autonomy, Standardized Application Software and the Kickoff of the Internet Era (1995 – 2000)

Standards (Certificates), E-Learning and Upcoming of Didactical Issues (2000 – 2005)

The Experimental Stage (1985 – 1990)

1985: Area wide introduction of computers (6 PC IBM-compatibles per school with 640 kB RAM, GW-Basic, Supercalc, Textmaker, Open Access, … and … about 1000 classes (~ 25000 pupils) with about 2000 more or less well prepared teachers

1986: Introduction of elective courses Informatics in the grades 10 – 12 with optional final exam (Matura)
Acceptance: About 30% of all the students

A look at at the EDV-Matura in Völkermarkt 1989

The Experimental Stage (1985 – 1990)

TURBO-PASCAL ;-)

a really long-lasting phenomenon
in the history of Informatics

Further „highlights" ...

Textmaker, Supercalc, Open Access, Logo ..

MUPID ;-(

Most **U**seful **P**roduct **I**nvented
in the **D**ecade

Who remembers ENABLE?

Networking and the GUI-Era (1990 – 1995)

Computer became a mass product
(almost half of the students declared to have access
to computers at home)

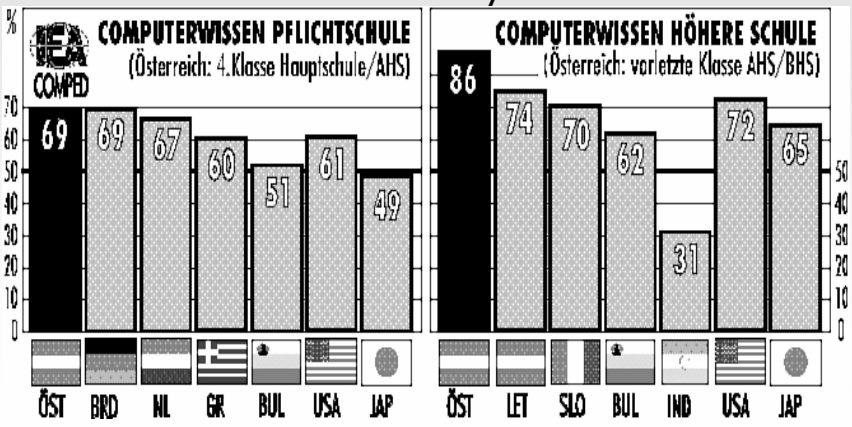
1990 Stand alone PCs get networked
15 PC-ATs with a NOVELL Network for Informatics in the Secondary lower level (13-14 years old pupils)

First attempts to introduce computers in other subjects

1993 8 networked Intel PCs 486 (4MB RAM, 40 MB HD)
Operating system: Windows 3.1

Networking and the GUI-Era (1990 – 1995)

Worldwide COMPED Study 1992



Autonomy, Standardized Application Software and the Kickoff of the Internet Era (1995 – 2000)

1995 Beginning of autonomy in schools leads to very different profiles of schools where Informatics plays an important role

1997 First networked Pentium Computers with Windows NT
Break-through of GUI with „standard applications"
Austrian schools went online
Internet access with one modem (33kBit/s)!!!!!

- 2000 Internet Knowhow increased rapidly
Rearranging of content in Informatics lessons
(HTML, script languages, client server concepts)
Beginning of the discussion of ICT and Informatics
Example of (Written) Matura in Informatics 2000

Standards (Certificates), E-Learning and Upcoming of Didactical Issues (2000 – 2005)

The Internet hype is over … at least at the stock exchanges, but not in schools

Extended Use of the Internet in schools is „normality" (1-2MB) (for downloading, gaming and chatting …, but not only!)

Standardization in form of certificates (e.g. ECDL), supported by the Ministry of Education influenced the subject Informatics (ICT eating Informatics?)

E-Learning initiatives in Austrian schools

Installation of a regular teacher study in Informatics[management] at four universities in Austria (Vienna, Salzburg, Klagenfurt, Linz)

Concluding remarks

- After 20 years new (modern) curricula in the AHS have been introduced, also for Informatics – school autonomy has been reinforced
- Efforts to integrate informatical education in other subjects have not really been successful everywhere
- The subject Informatics „suffers"
  - from the overall reduction of lessons (two per week) in 2004
  - from almost unmanageable offers and shifts in contents, methods and software tools which leads to a certain disorientation
- There is hope to remedy this situation by reinforcing didactical research

Perhaps this conference can give some valid answers …

Last slide …

Men have become
tools of their tools…

[David Thoreau, 1817 – 1862]

Thank you for your attention!

Mr. Weissenböck, it is your turn!
Let's go from A to B – from AHS to BHS!