Lessons learned in introducing informatics part 1

Successes and failures

Lessons learned

- Part 1 Lessons from the past: Recommendations and challenges

- Part 2 the new NL core objectives Informatics: are the lesson learned?

  My sources

Lessons learned

- Why?
  Mid ‘80’s Developments in UK (MEP) and BBC computer (Acorn).
  State commission in NL, public pressure

- What?
  Introducing new subject in sec. education (12-18)

- How? Curriculum development and professional development for teachers

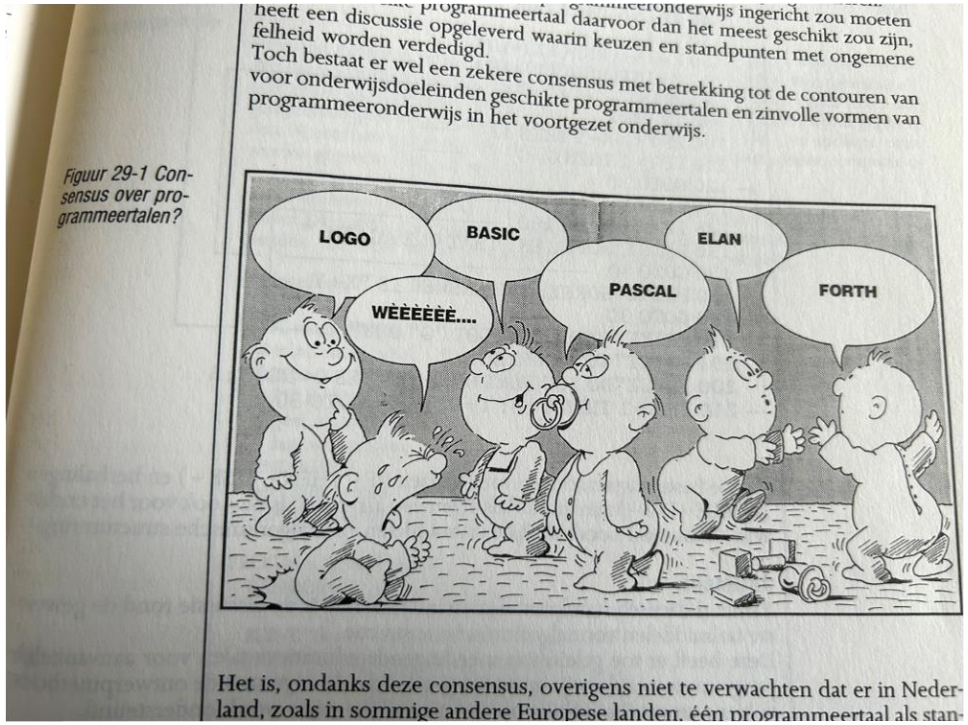
Introducing computers in education: Timeline

- 1984 start introducing pc's in NL secondary education 12-16 years
  - New subject area: calles civil informatics (burger informatica later informatiekunde , and computer science
  - Basic concepts: data and info; communication; data processing; information society; the programmable machine (CPU, MS-Dos), databases
  - Curriculum development : 180 hours in teaching (most schools 40 hours)
  - Professional development
- 1990 start introducing in elementary schools: the Comeniuscomputer

The faillures

- Overload content in two very rich books: a theory book and practice
- No real curriculum choices were made
- Cascade model: professionalising of teachers was required (every school 3 teachers etc.).Cascade did not work
- Quality of the courses at teacher education centres was not always OK
- No formal integration in the curricula. Exception physics and vocational education

Dated issues



programmeertaal daarvoor dan het meest geschikt zou zijn, heeft een discussie opgeleverd waarin keuzen en standpunten met ongemene felheid worden verdedigd.
Toch bestaat er wel een zekere consensus met betrekking tot de contouren van voor onderwijsdoeleinden geschikte programmeertalen en zinvolle vormen van programmeeronderwijs in het voortgezet onderwijs.

Figuur 29-1 Consensus over programmeertalen?

Het is, ondanks deze consensus, overigens niet te verwachten dat er in Nederland, zoals in sommige andere Europese landen, één programmeertaal als stan-

The failures (continues)

- The increasing workload within the schools (more testing, reports, discussions etc.)
- The shortage of teachers
- Many teachers got burnouts
- Many teachers who followed the courses with success left school and moved to industry
- Government stopped in the beginning of the 90’s with central direction.
- The innovations were top down

The successes: vocational education approach became a success? Why?

- Not to theoretical
- Integrated in specific subjects from practice
- Direct results e.g. in electrician training, chef training/cuisinier, cloth design etc.
- Part of the training in company, intern ships
- More motivation, not ‘why do I need all this’
- Computers were cool

The lessons learned, the do’s:

- Downsize your curriculum
- Choose subjects that are sustainable, e.g. not like in last century: learning MS-DOS commands and Basic. But algorithms, programming concepts like recursion. Language (programming and natural language, AI)
- Choose an appropriate coding-language
- Make sure that the teachers know the basics but there are always some students that now more about aspects
- Choose practical examples/applications : robotics, 3D-design, knitting, animation
- Aspects of internet use: privacy, security, ‘alternative facts’
- How to asses?
- Use Practice based research / Action research principles

Sources personal interviews with:

- Drs. Cor Nagtegaal: coordinator professional development secondary education, at Ministry of education
- Drs. Rob Rapmund: coordinator professional development vocational education at Ministry of education
- Prof.dr. Tjeerd Plomp chairman of state committee for computers in education
- Drs.Wim Deetman responsible Minister of Education from 1982-1989, chairman of parliament, mayor of The Hague,