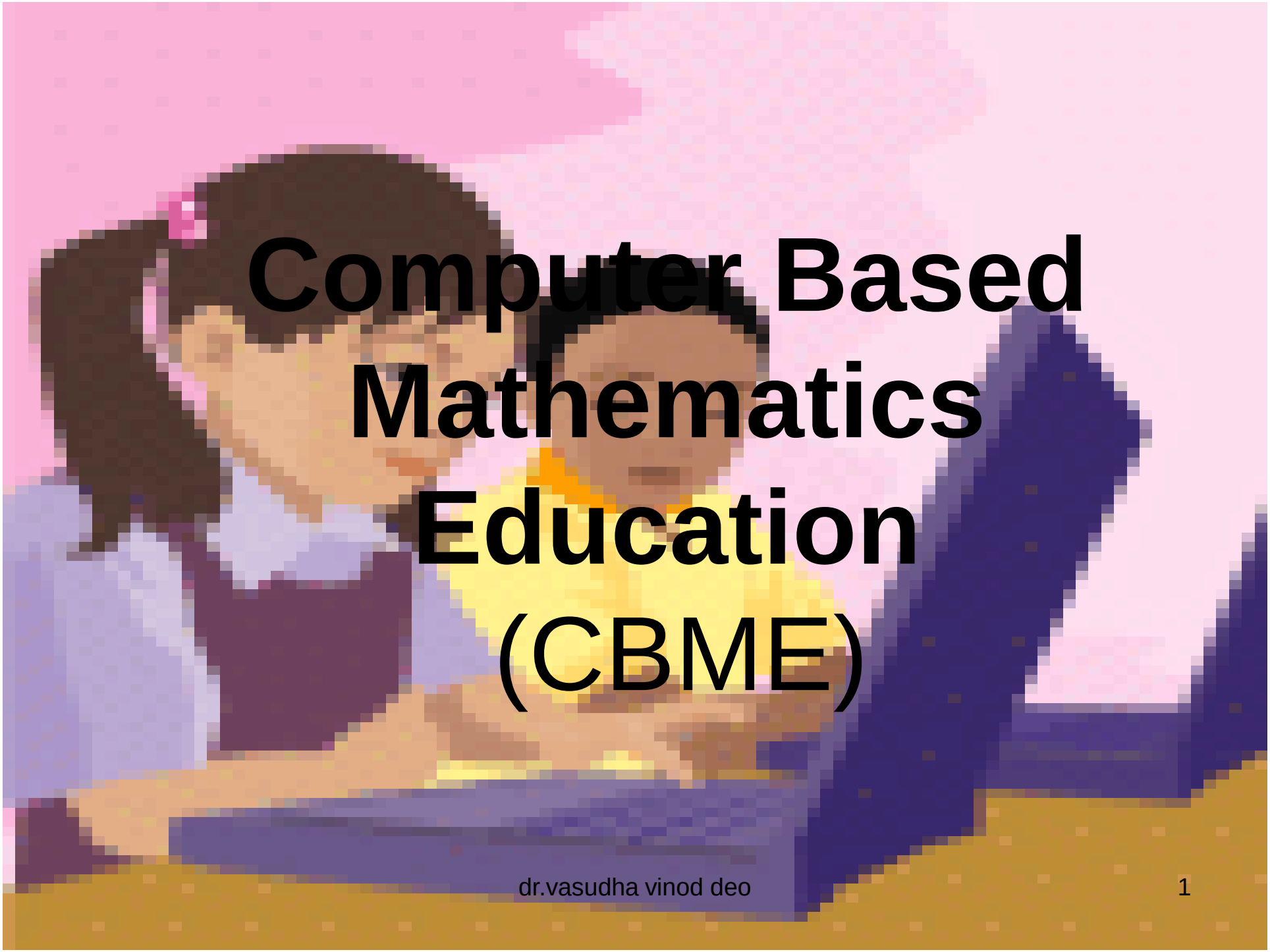
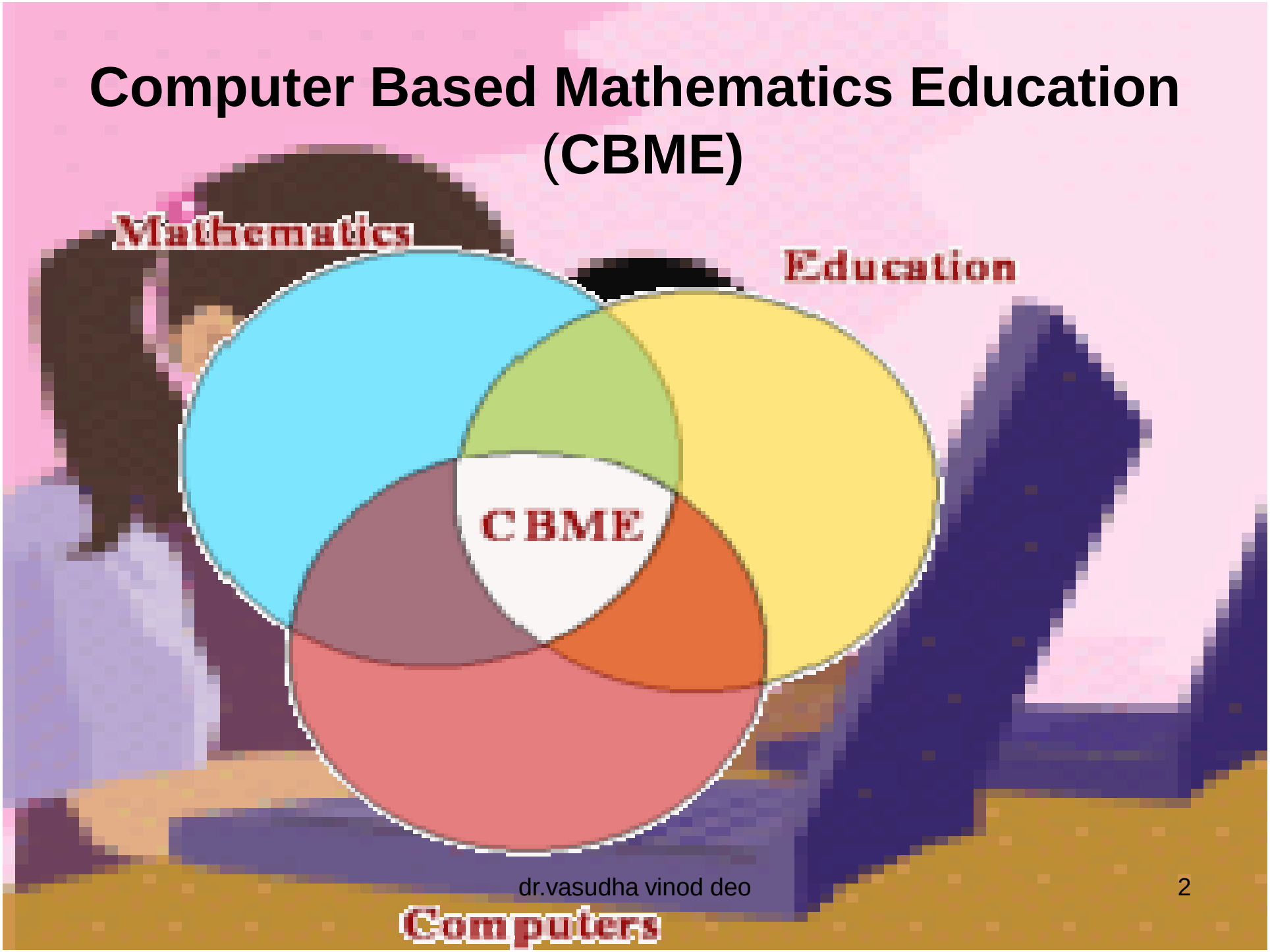
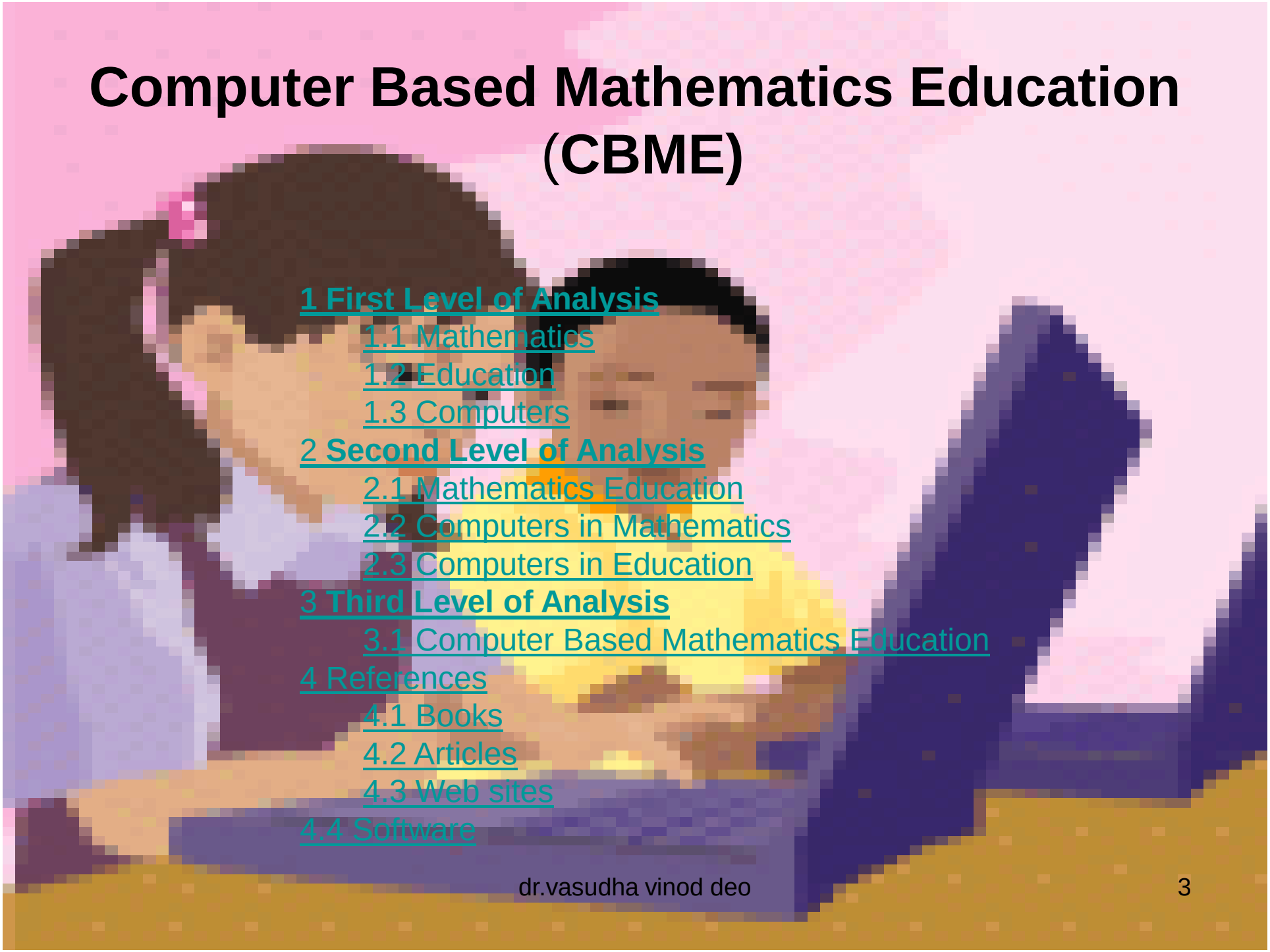


Computer Based Mathematics Education (CBME)

Computer Based Mathematics Education (CBME)



Computer Based Mathematics Education (CBME)



Computer Based Mathematics Education (CBME)

Although there are many definitions of education in various disciplines, it is safe to classify the aims of education into three general groups: Subject matter, skills, and improving learning abilities. Subject matter refers to the subjects to be studied and therefore to be learned through a specific of education while the term of skills refers to the skills to be gained through education as problemsolving skills, cognitive skills (analyzing, synthesizing, and creating), and metacognitive skills

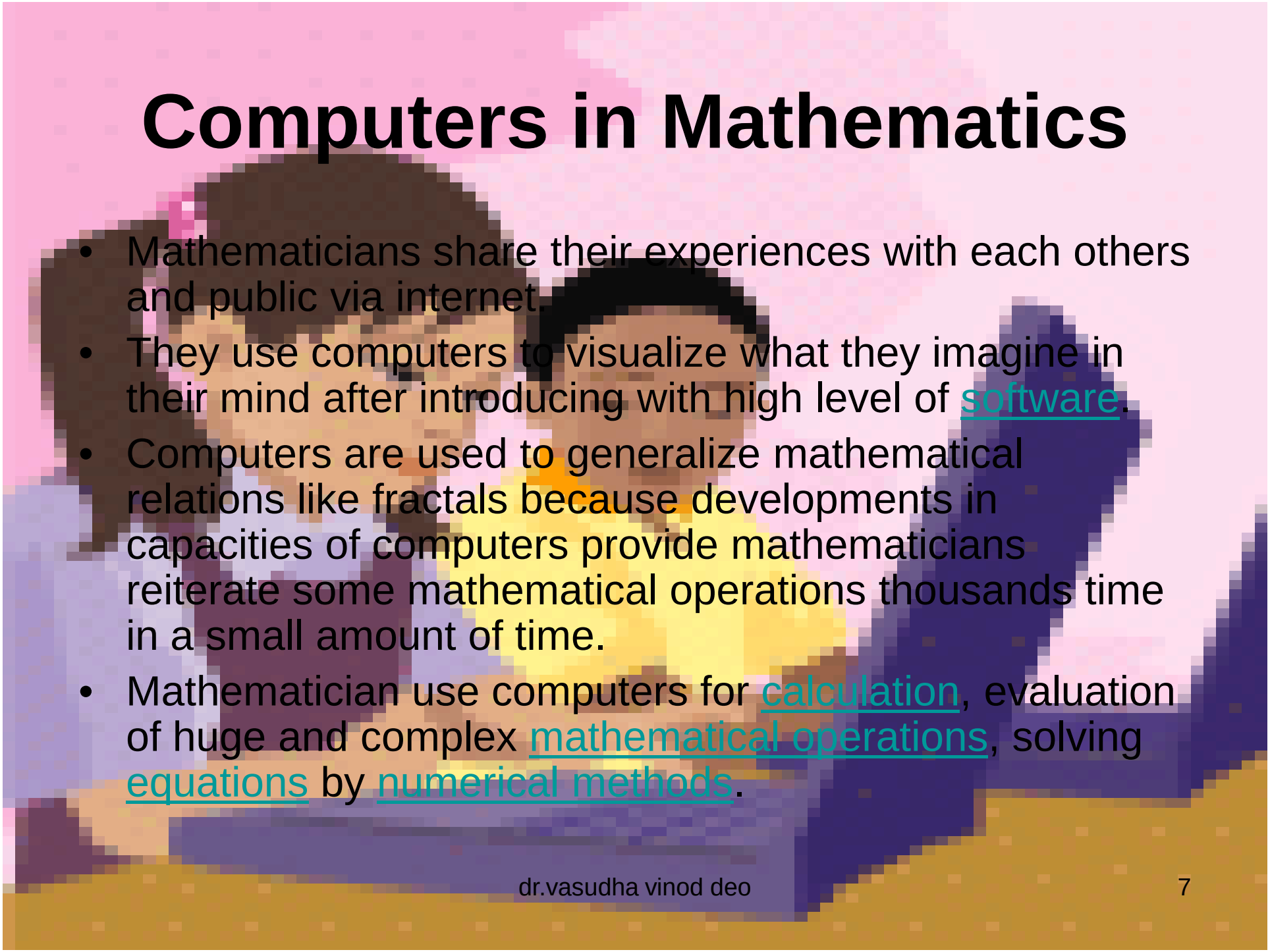
Computer Based Mathematics Education (CBME)

- Mind and philosophy of mind have been great debates for centuries. Epiphenomenalism and Cartesian dualism are some theories about mind and its causes, relations with physical world. Popper defines world in a three world chema, which can be examplified in mathematics as follows

Computer Based Mathematics Education (CBME)

- World 1: World of manipulatives and legos used to define mathematical objects.
- World 2: World of mental objects like numbers, symbols and events like solving equation, cancellation of polynomials.
- World 3: World of product of human mind like theorems, proofs, set theory, derivatives, integrals

Computers in Mathematics

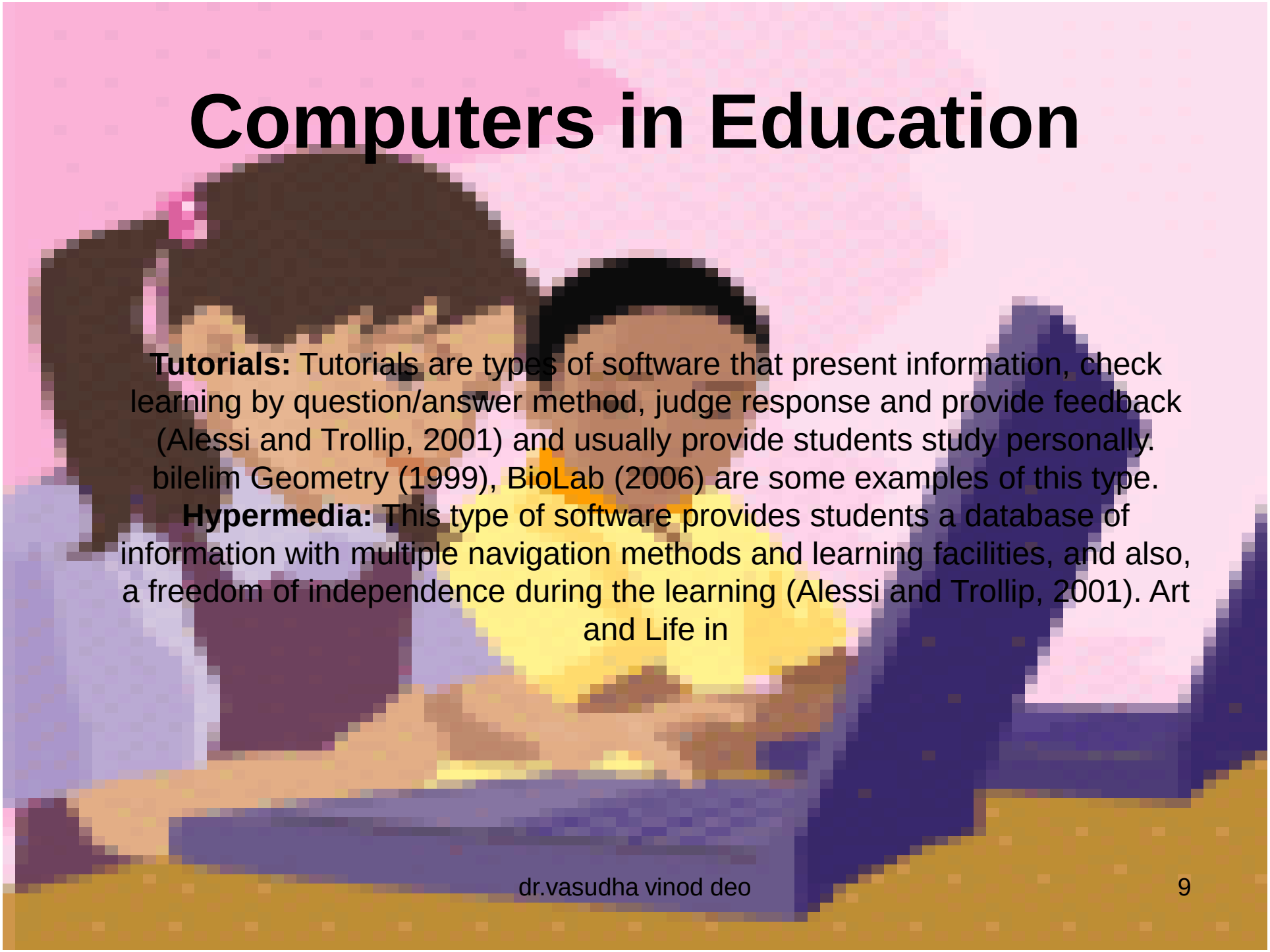


- Mathematicians share their experiences with each others and public via internet.
- They use computers to visualize what they imagine in their mind after introducing with high level of software.
- Computers are used to generalize mathematical relations like fractals because developments in capacities of computers provide mathematicians reiterate some mathematical operations thousands time in a small amount of time.
- Mathematician use computers for calculation, evaluation of huge and complex mathematical operations, solving equations by numerical methods.

Computers in Mathematics

- Computers are used in education in a number of ways: Tutorial, Hypermedia, Simulation, Drill and Practice, Educational game, Tools and Open-Ended Learning Environment, Web-Based Learning, and Online Collaborative Environment (Alessi and Trollip, 2001).

Computers in Education



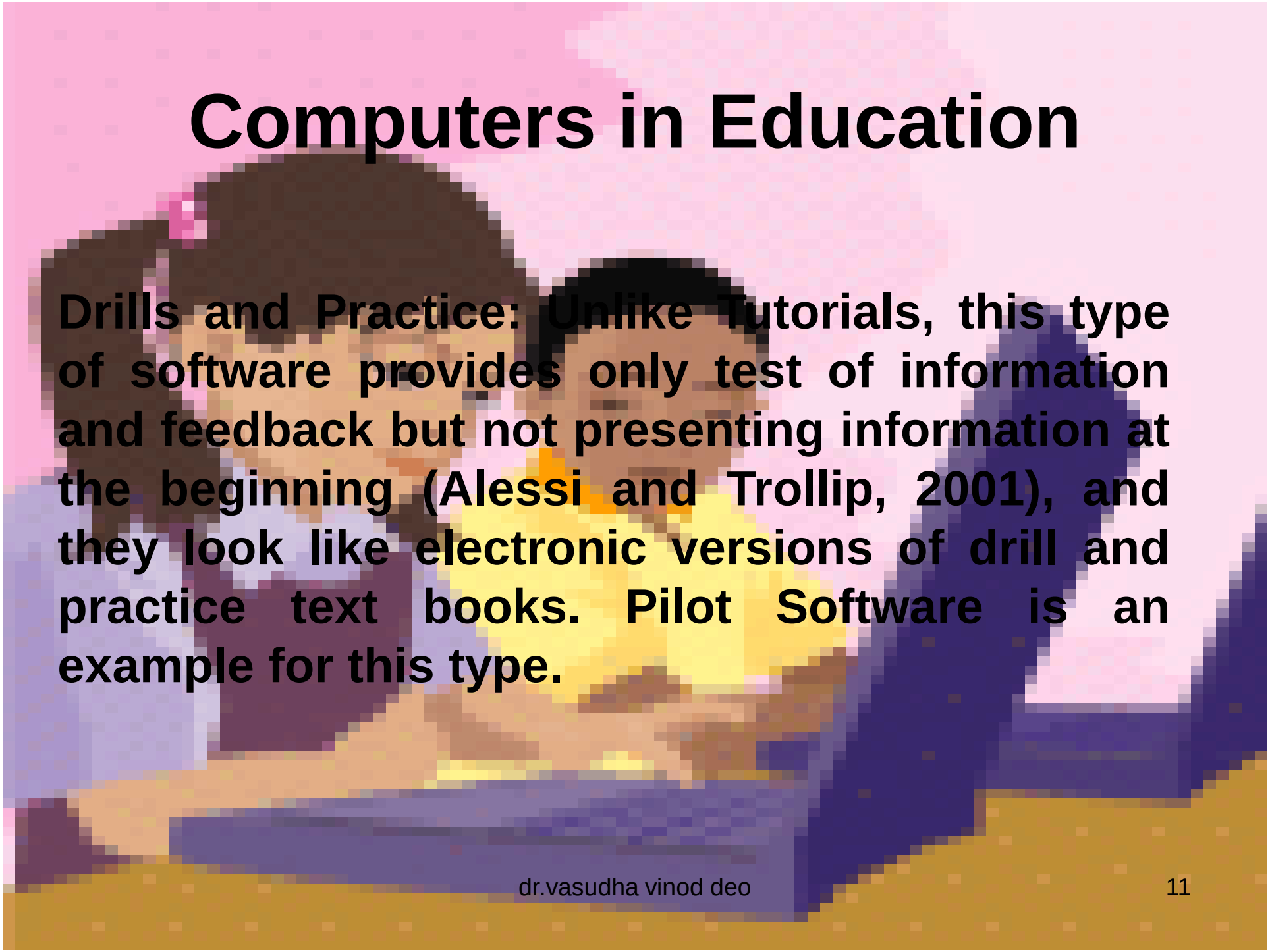
Tutorials: Tutorials are types of software that present information, check learning by question/answer method, judge response and provide feedback (Alessi and Trollip, 2001) and usually provide students study personally. bilelim Geometry (1999), BioLab (2006) are some examples of this type.

Hypermedia: This type of software provides students a database of information with multiple navigation methods and learning facilities, and also, a freedom of independence during the learning (Alessi and Trollip, 2001). Art and Life in

Computers in Education

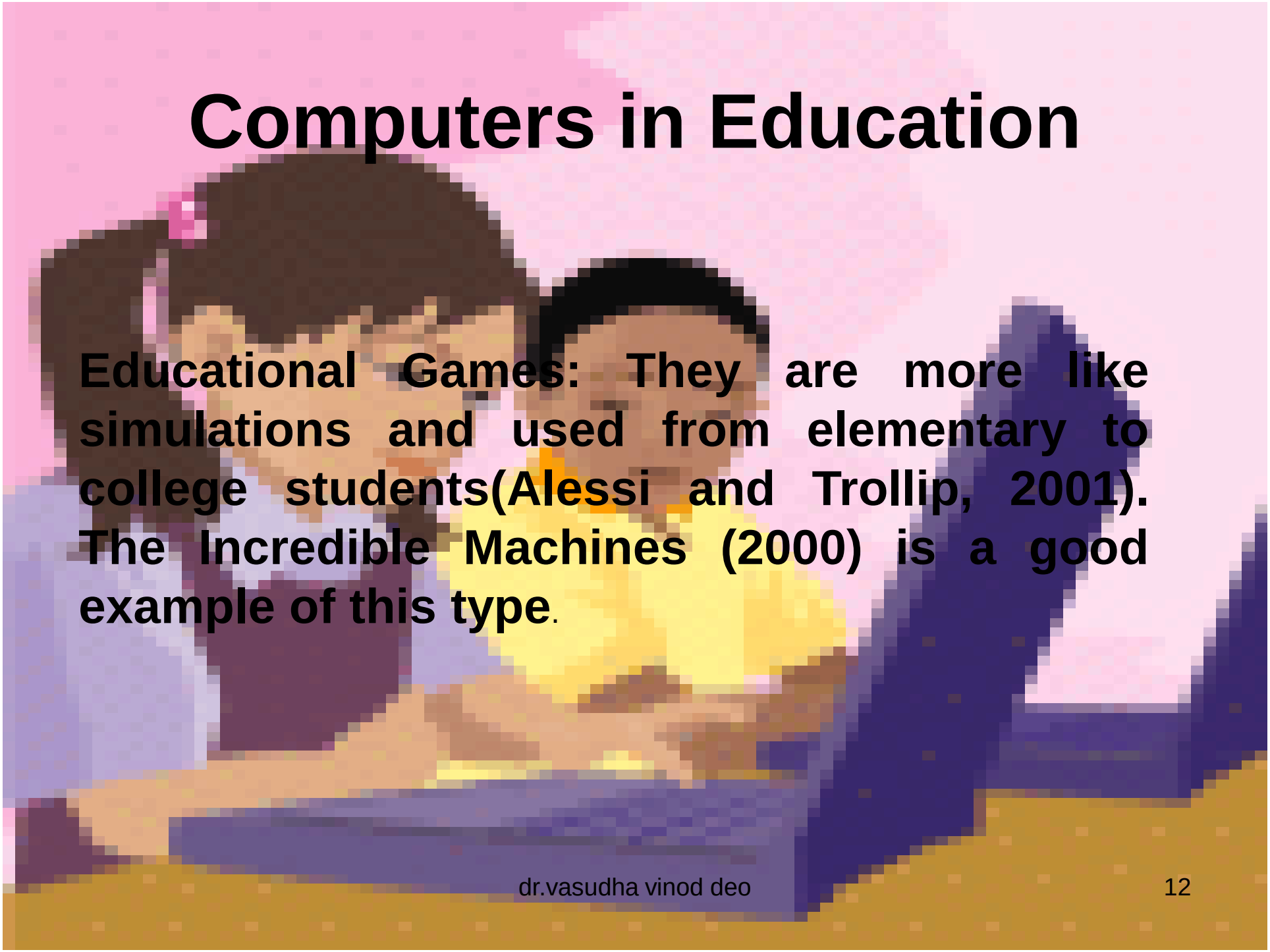
- **Simulations:** This type of software provides students inteaction with simulations in order to learn as in their real life (Alessi and Trollip, 2001) and use the storage and processing features of computers. Some leading examples are ChemLab (1994), Crocodile-Clips (2003).
- **Simulations:** This type of software provides students inteaction with simulations in order to learn as in their real life (Alessi and Trollip, 2001) and use the storage and processing features of computers. Some leading examples are ChemLab (1994), Crocodile-Clips (2003).

Computers in Education



Drills and Practice: Unlike Tutorials, this type of software provides only test of information and feedback but not presenting information at the beginning (Alessi and Trollip, 2001), and they look like electronic versions of drill and practice text books. Pilot Software is an example for this type.

Computers in Education



Educational Games: They are more like simulations and used from elementary to college students(Alessi and Trollip, 2001). The Incredible Machines (2000) is a good example of this type.

innovations and developments

- Behaviorism, Cognitivism, Social Cognitivism, Constructivism, and Distributed Cognitivism,

developments of computers-in-education

- implementation of new technologies into educational needs, decrease in the number of technology-challenged people

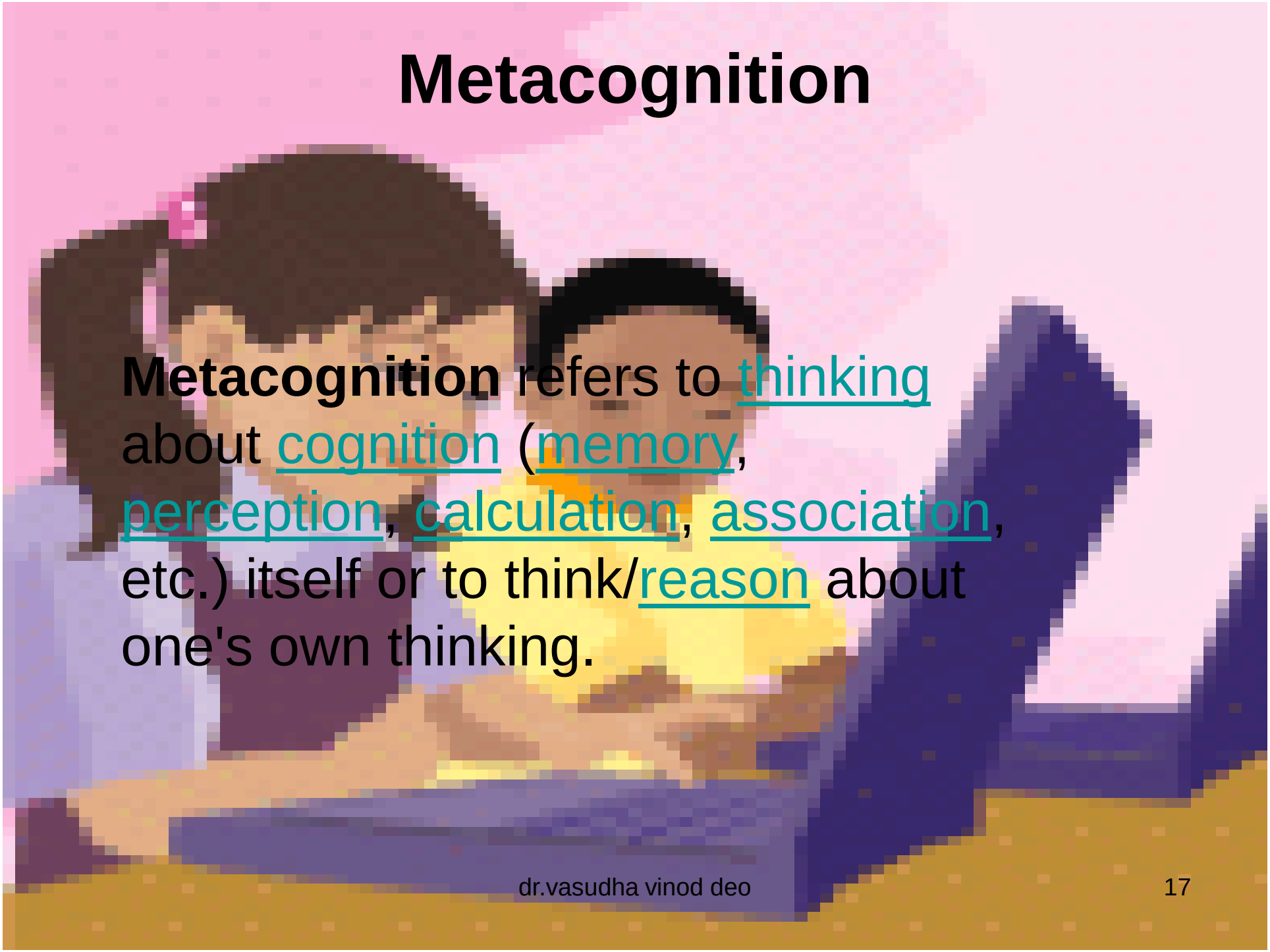
pressure from human's side.

- The needs for new generation and The Multitasking Generation (Time, 27 May 2006), and the needs for reinterpretation of mathematics education for those who need have been discussed (Cowen,2006; Karadag,2006) in various platforms

Computer supported online learning environments,

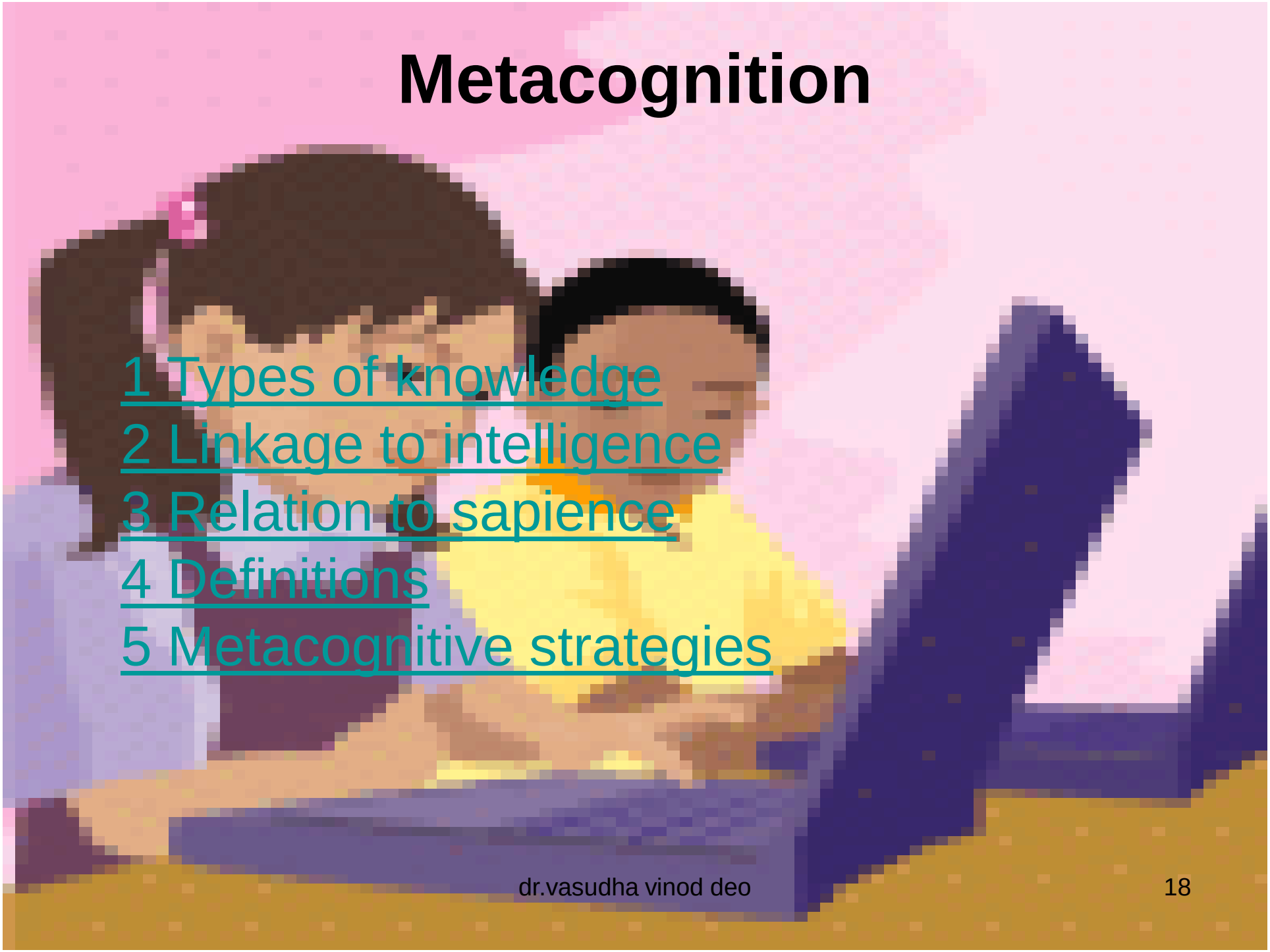
- Sakai and Knowledge Forum, are examples of synthesis of educational innovations and recent developments in computers

Metacognition



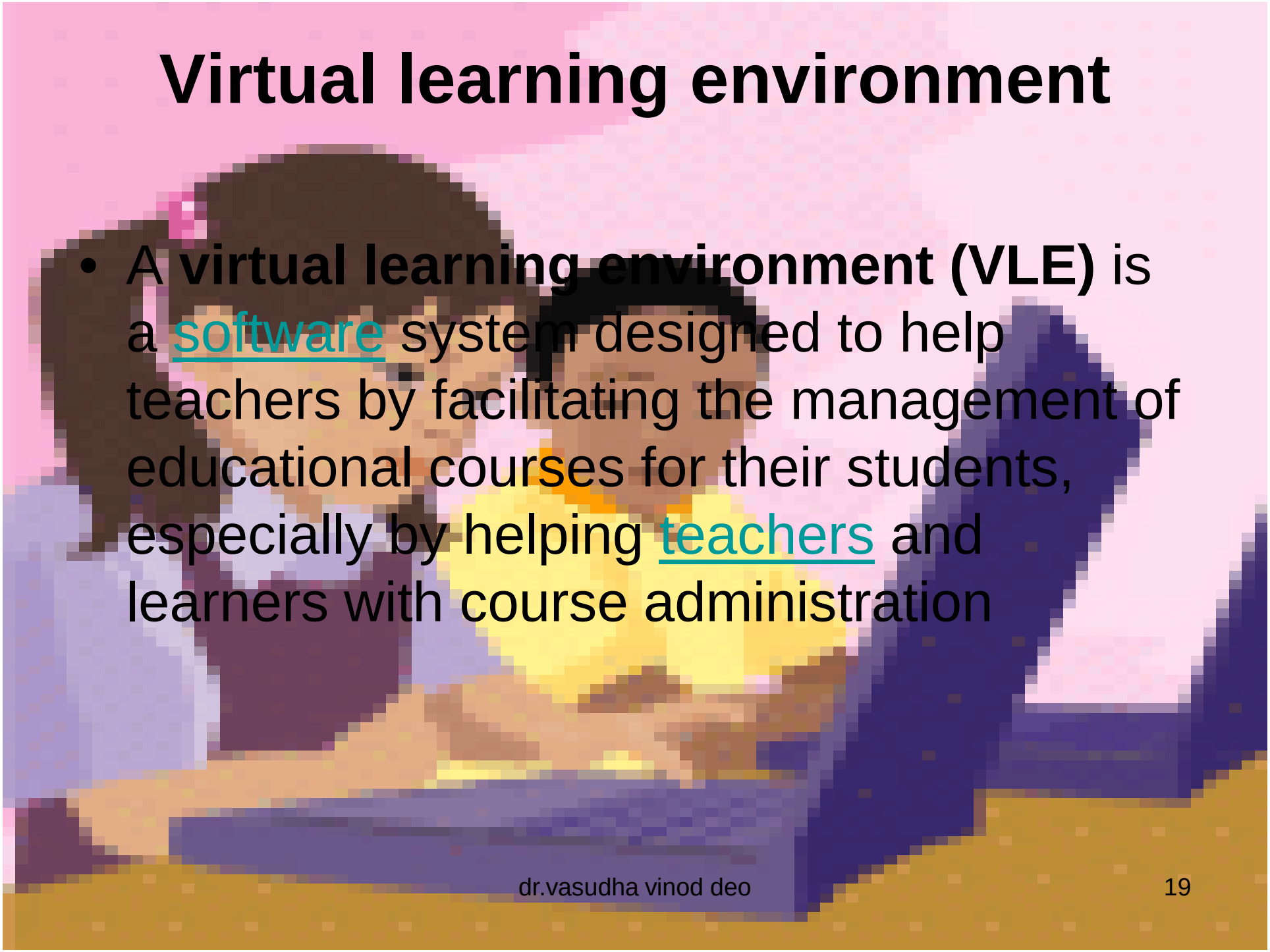
Metacognition refers to thinking about cognition (memory, perception, calculation, association, etc.) itself or to think/reason about one's own thinking.

Metacognition



1 Types of knowledge
2 Linkage to intelligence
3 Relation to sapience
4 Definitions
5 Metacognitive strategies

Virtual learning environment



- A **virtual learning environment (VLE)** is a software system designed to help teachers by facilitating the management of educational courses for their students, especially by helping teachers and learners with course administration

Virtual learning environment

- CyberExtension **Virtual Managed Learning Environment** with chat, messaging, course creation and management tools

Virtual learning environment

- 1 Similar terms
- 2 Facilities
- 3 Popularity
- 4 Transferring course content
- 5 Systems available
- 6 List of some virtual learning environments
  - 6.1 Learning management systems
  - 6.2 Course management system
  - 6.3 Virtual learning environment
- 6.4 Other descriptions

Virtual learning environment

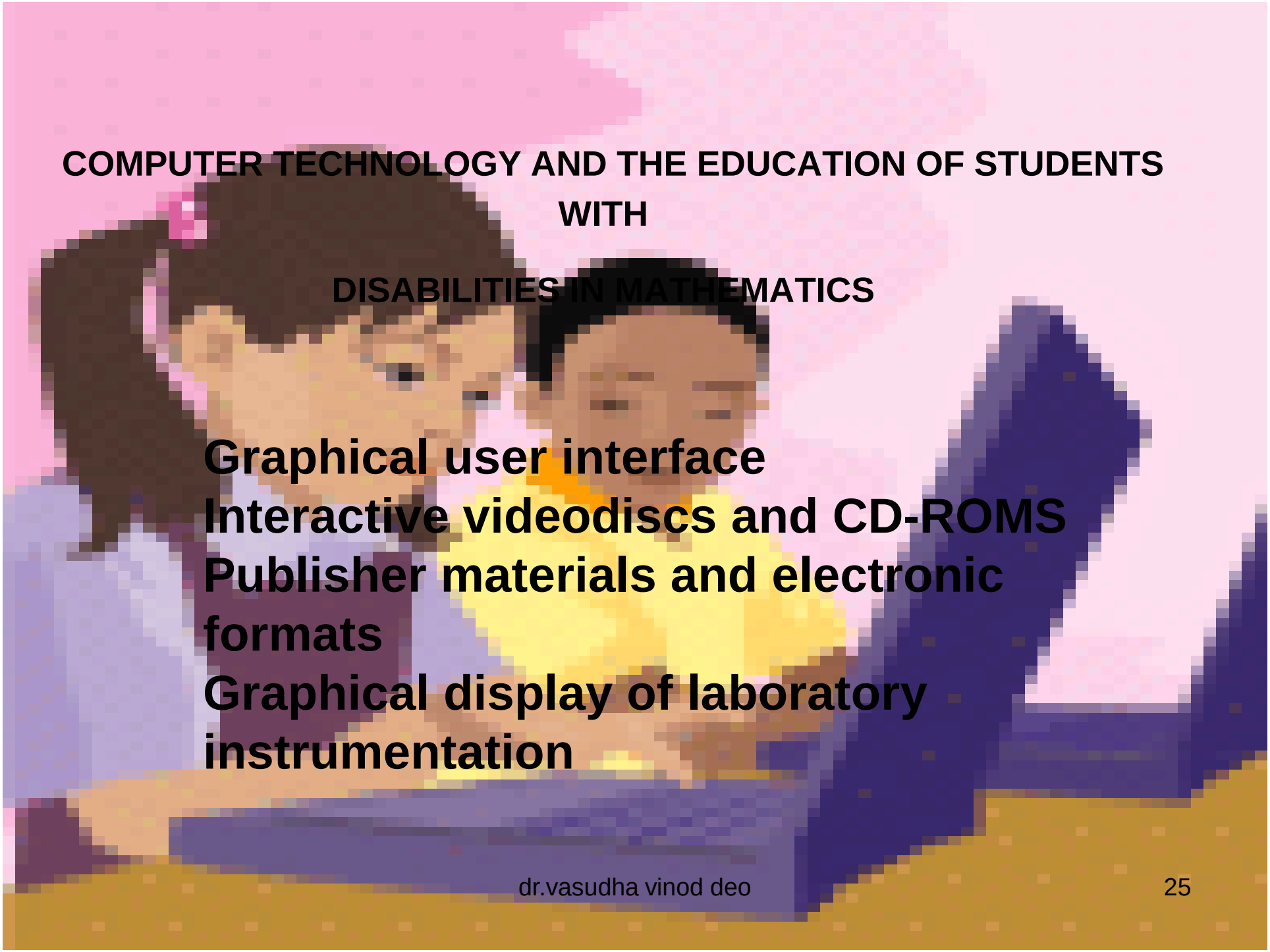
- Similar terms
- A VLE is a computer program that facilitates computerized learning or e-learning. Such e-learning systems are sometimes also called Learning Management System (LMS), Course Management System (CMS), Learning Content Management System (LCMS), Managed Learning Environment (MLE), Learning Support System (LSS) or Learning Platform (LP); it is education via computer-mediated communication (CMC) or Online Education.

List of some virtual learning environments

- **Learning management systems**
- ANGEL Learning
- Claroline
- **Course management system**
- Moodle - Course Management System
- **Virtual learning environment**
- CyberExtension - Virtual Managed Learning Environment
- **[Other descriptions**
- Apex Learning - K-12 online course service and AP test study
- ATutor - LCMS
- Blackboard- a family of software applications designed to enhance teaching and learning
- Dokeos - elearning and course management web application
- FirstClass - messaging and communications

educational software

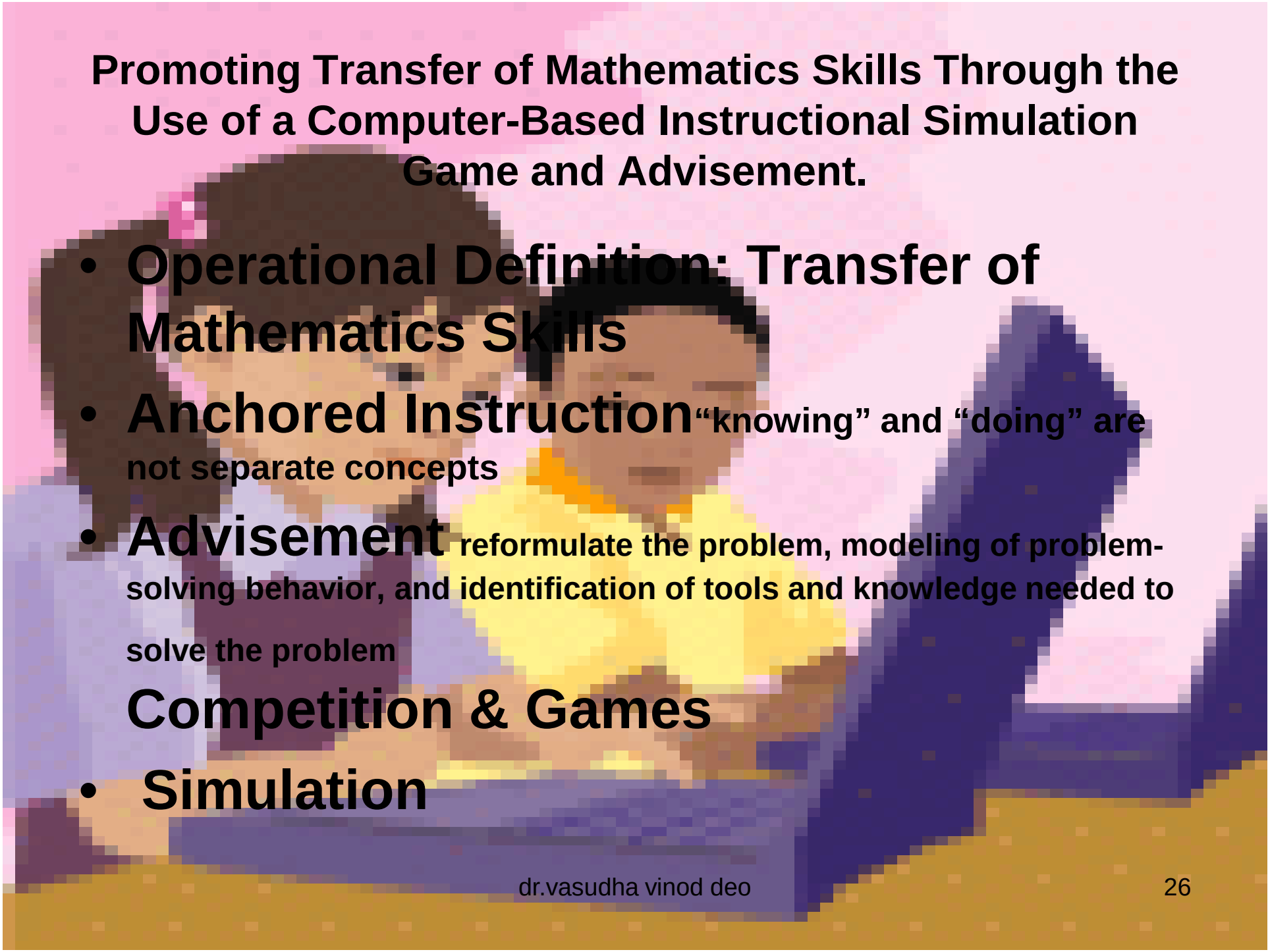
- **Knowledge Forum**
- **1 Background**
- **2 Specifications**
- **3 Software features**
- **4 Pedagogical approaches**



COMPUTER TECHNOLOGY AND THE EDUCATION OF STUDENTS WITH

DISABILITIES IN MATHEMATICS

Graphical user interface
Interactive videodiscs and CD-ROMS
Publisher materials and electronic formats
Graphical display of laboratory instrumentation



Promoting Transfer of Mathematics Skills Through the Use of a Computer-Based Instructional Simulation Game and Advisement.

- **Operational Definition: Transfer of Mathematics Skills**
- **Anchored Instruction** **"knowing" and "doing" are not separate concepts**
- **Advisement** **reformulate the problem, modeling of problem-solving behavior, and identification of tools and knowledge needed to solve the problem**
- **Competition & Games**
- **Simulation**

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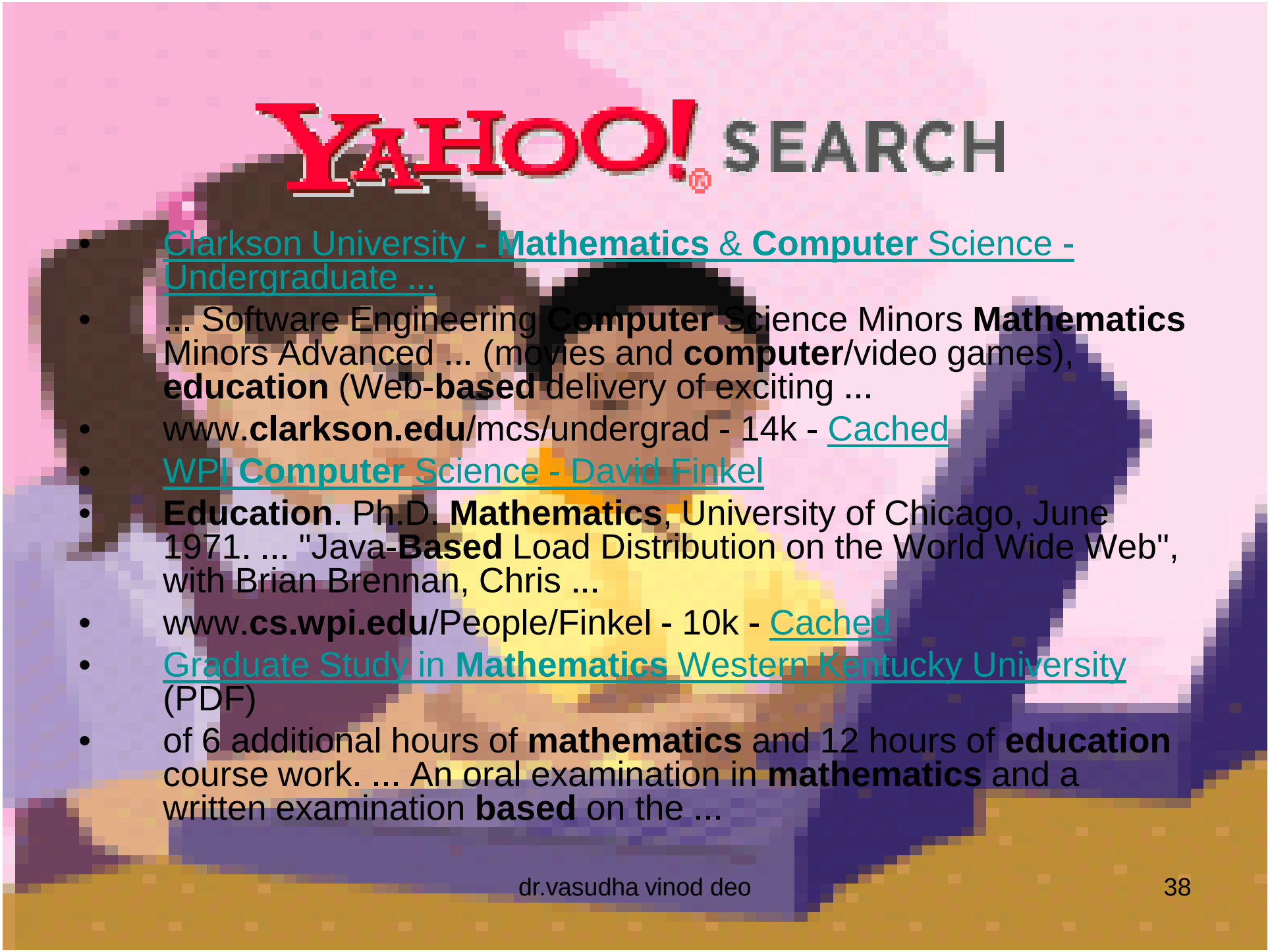

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- **Mathematics** and **Computer** Science - Vanguard University
- Grades are percentage-**based**, not curve-**based**; grade sabotage does not occur here. ... An VU **education** isn't all **mathematics**. ...
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- Design research in statistics **education** On symbolizing and **computer** tools (PDF)
- Institute and **mathematics education** turned out to be the interdisciplinary mix I ... that underlies much of the RME-**based** research, namely that of how to ...
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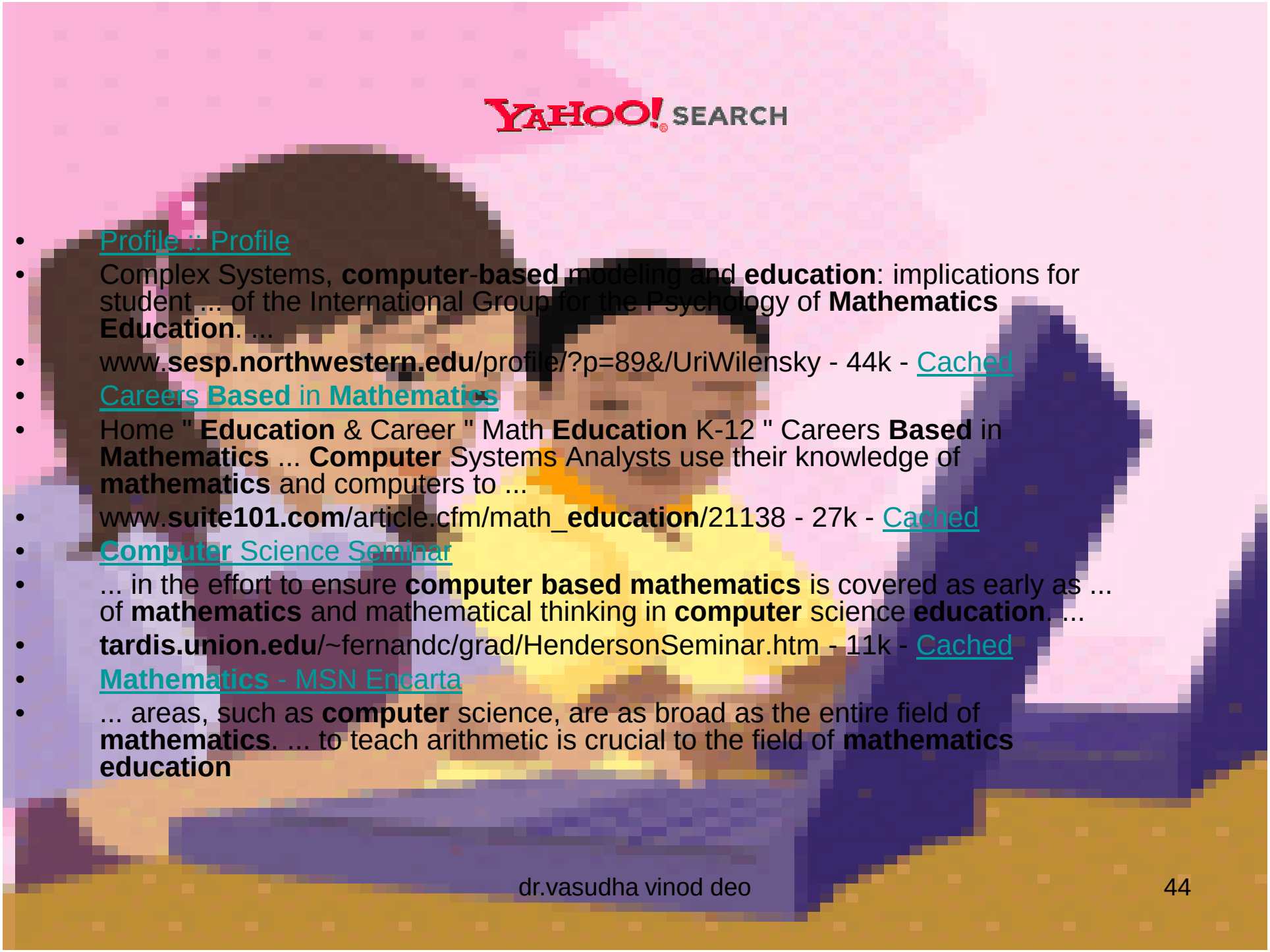

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- **Mathematics** - MSN Encarta
- ... areas, such as **computer** science, are as broad as the entire field of **mathematics**. ... to teach arithmetic is crucial to the field of **mathematics education**

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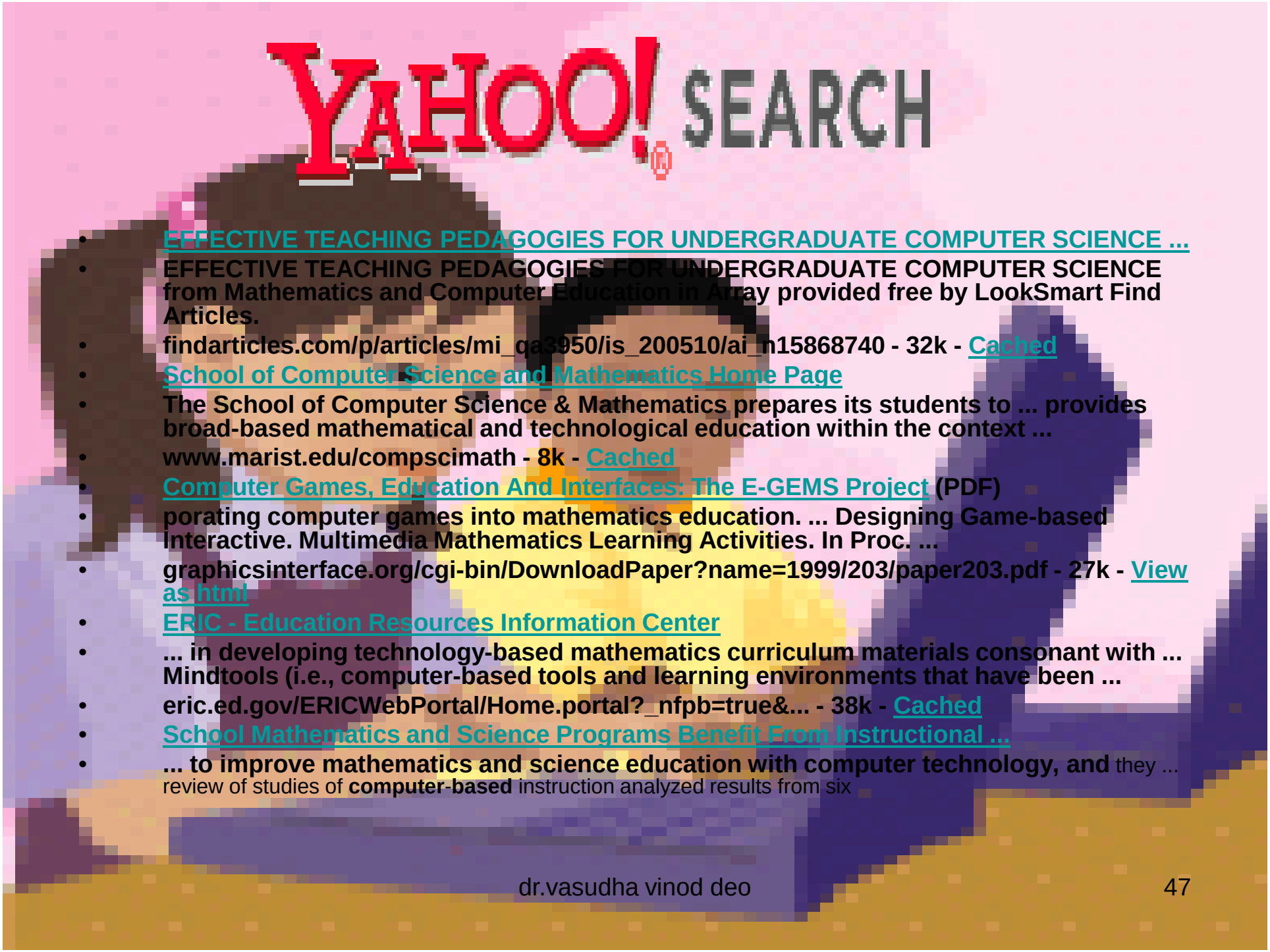

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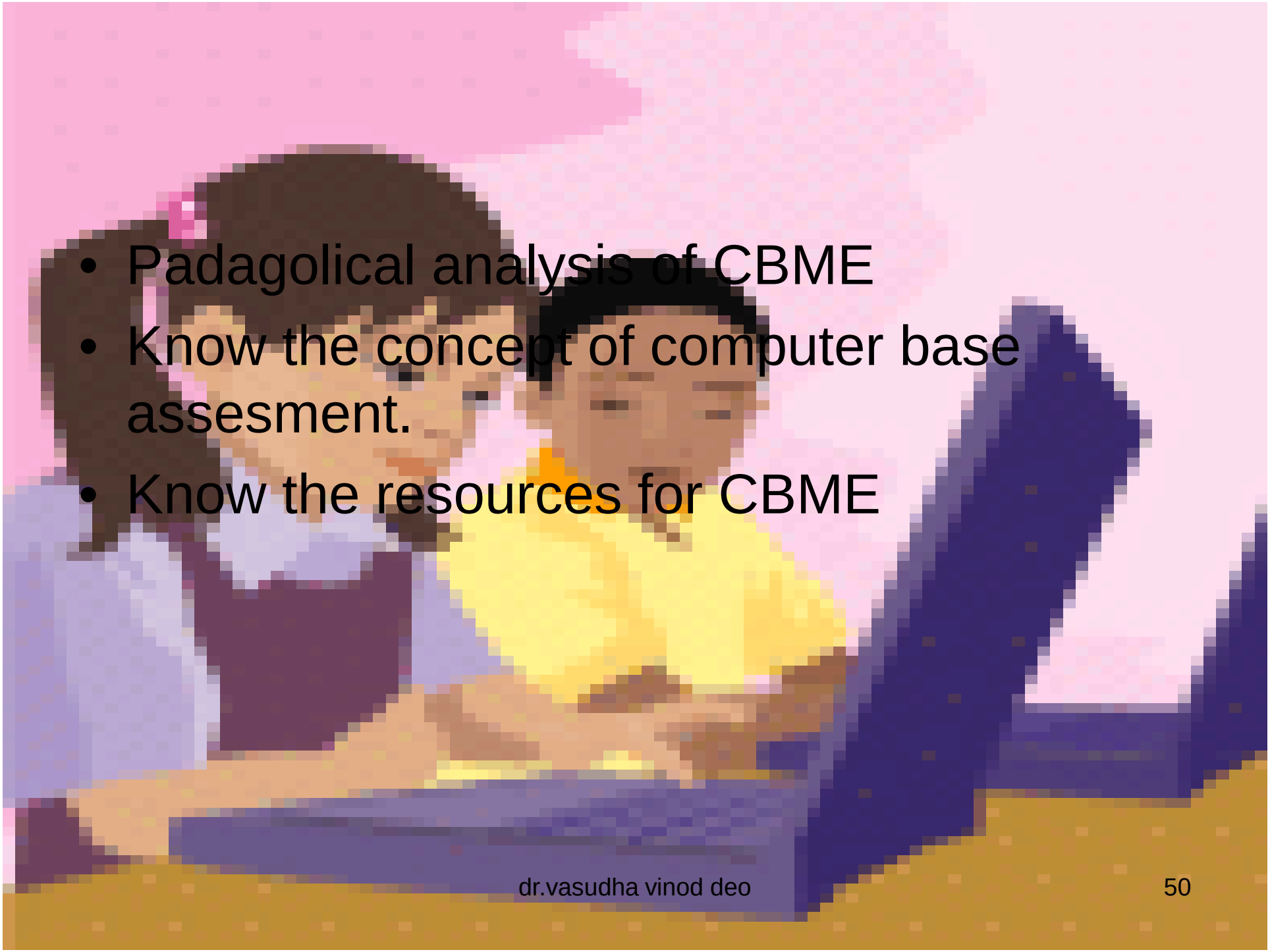
- findarticles.com/p/articles/mi_qa3950/is_200510/ai_n15868740 - 32k - Cached
- School of Computer Science and Mathematics Home Page
- The School of Computer Science & Mathematics prepares its students to ... provides broad-based mathematical and technological education within the context ...
- www.marist.edu/compscimath - 8k - Cached
- Computer Games, Education And Interfaces: The E-GEMS Project (PDF)
- porating computer games into mathematics education. ... Designing Game-based Interactive. Multimedia Mathematics Learning Activities. In Proc. ...
- graphicsinterface.org/cgi-bin/DownloadPaper?name=1999/203/paper203.pdf - 27k - View as html
- ERIC - Education Resources Information Center
- ... in developing technology-based mathematics curriculum materials consonant with ... Mindtools (i.e., computer-based tools and learning environments that have been ...
- eric.ed.gov/ERICWebPortal/Home.portal?_nfpb=true&... - 38k - Cached
- School Mathematics and Science Programs Benefit From Instructional ...
- ... to improve mathematics and science education with computer technology, and they ... review of studies of **computer-based** instruction analyzed results from six

- **MATHEMATICS EDUCATION** AT TEXAS A&M UNIVERISTY COLLEGE STATION,TEXAS
- **Mathematics education** programs at College of **Education** at Texas A&M ... developments, **computer-based** teaching tools, Internet and Web-**based** sources, and ...
- **mathed.tamu.edu**/graduate_catalog.html - 23k - Cached
- Open Directory - Science: Math: **Education**: Software
- **Computer based mathematics** tutorials. CALM - **Computer** Aided Learning in **Mathematics** project. ... **Education** Academies - Interactive **computer** program ...
- www.**dmoz.org**/Science/Math/**Education**/Software - 24k - Cached
- The Robert B. Davis Institute for Learning (RBDIL): About RBDIL

To

- To Know te role of technologies in modern educational.
- Learn the concept of CBME Praaties
- Know the different way of use of computer in Education.
- Know the Impact of educational Innovation on CBME Know – Use of strategies.
- Aware about virtual learning Environment.



- Padagolical analysis of CBME
- Know the concept of computer base assesment.
- Know the resources for CBME

Unit I

1. Defination of educational technology – there role in modern educational practices Use of technology to improve student achievement.
2. Meaning an concept of computer base mathematics.
3. Place and Importance of the subject in school curriculum
4. New frontieors in educational technology

Unit II

- Different way of use of compter in education.

  1. First Level analysis 2. secod Level analysis.

  3. Third Level analysis.
- Impact of educational Innovations on CBME

  1. Behaviourism 2. Congitivism

  3. Social Cognitivism 4. Construction

  5. Distributed congnitivism

Unit III

A) Concept of learning. Learning environment

- virtual learning environment (VIE)
- common collaboration an learning environment (CLE)
- Learning mananagement system (LMS)
- Course manageent system (CMS)

B) Web based learning – web based Math. edu.

C) Concept of Artificial intelligence in Edu.
current progress and future prospects.

Unit IV

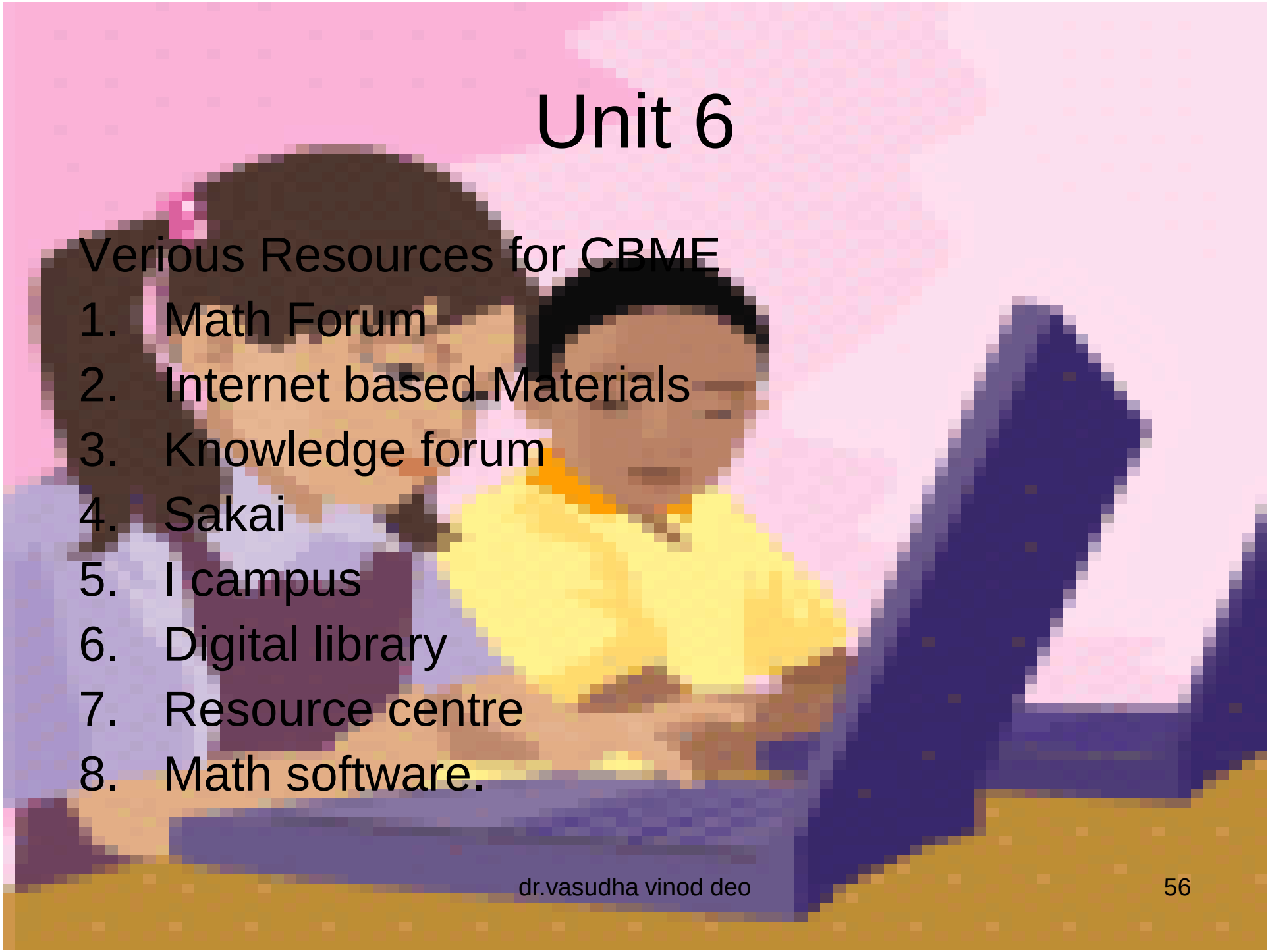
A) Padagogical analysis of CBME

1. Teacing technology or Methodology of CBME
2. Objective of CBME
3. Role and qualities of instructiors.
4. concept of presentation technology.
5. computer base assesment – online assessment system.
6. School as a digital playground.
7. Digital video delivery in school.

Unit V

1. Promoting transfer of Mathematics skills through the use of computer.
2. CBME for Disable students
3. CBME for lifted childs.

Unit 6



Verious Resources for CBME

1. Math Forum
2. Internet based Materials
3. Knowledge forum
4. Sakai
5. I campus
6. Digital library
7. Resource centre
8. Math software.