Motivation and Persuasion in E-Learning

Hauptseminar "E-Learning – Sommersemester 2008

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Motivation and Persuasion
in E-Learning

≡ Outline

   ≡ E-Learing and Motivation

   ≡ Forms of Motivation

   ≡ Classical Motivation Models and Techniques

   ≡ Persuasive Technology

      ≡ Definition

      ≡ Tools

   ≡ Motivation Techniques in E-Learning Applications

   ≡ Conclusion

Motivation and Persuasion
in E-Learning

≡ E-Learning

  ≡ Learning process where digitally delivered content is combined with
    learning support and services (Pires et al., 2002)

≡ Motivation

  ≡ No standard definition

  ≡ One explanation:

    "A measure of physiological state directly related to the behavior of
    interest." (Mangel)

  ≡ Motivation at least as important in E-Learning as in classical learning

Forms of Motivation

≡ Motivation of learners depends on three aspects:

≡ Attribution Theory:

≡ Who/What do learners attribute their success/failure to?
→ Internal cause: learners attribute their success/failure to themselves
→ External cause: learners attribute their success/failure to other factors

≡ Expectancy-Value Theory

≡ What expectations about the results do learners have?
→ High expectations -> motivation can be increased

≡ Goal Theory

≡ What goals do learners set up?
→ Learning goals: e.g. learning a new language
→ Performance goals: achieving a certain performance level, e.g. a certain grade

Classical Motivation Models / Techniques

≡ The Time Continuum Model (Wlodowski, 1985)

≡ Concentration on different aspects during three periods of a learning process:

≡ The beginning: Attitudes and needs

≡ The middle: Stimulation and affect

≡ The end: Competence and reinforcement

≡ The ARCS Model (Keller, 1987)

≡ Four motivation categories

≡ Attention: E.g. varying the instruction format, using humor

≡ Relevance: Showing how present/future goals can be achieved

≡ Confidence: Letting the learner attribute his success to his effort

≡ Satisfaction: Giving positive reinforcement, feedback

Classical Motivation Models / Techniques

≡ Further Techniques to capture/maintain Attention (Taran, 2005)

≡ **"Manding stimuli":**

Phrases like "Watch out!", "Listen carefully

now!"

≡ **Anticipation:**

"Cannot wait to", "Finally"

≡ **Incongruity:**

Using aspects that contradict the learner's

intuition

WATCH OUT!

"Manding stimuli"

(funschool.com)

Classical Motivation Models / Techniques

≡ Further Techniques to capture/maintain Attention (Taran, 2005) (cont.)

≡ **Inquiry:**

Asking frequent questions

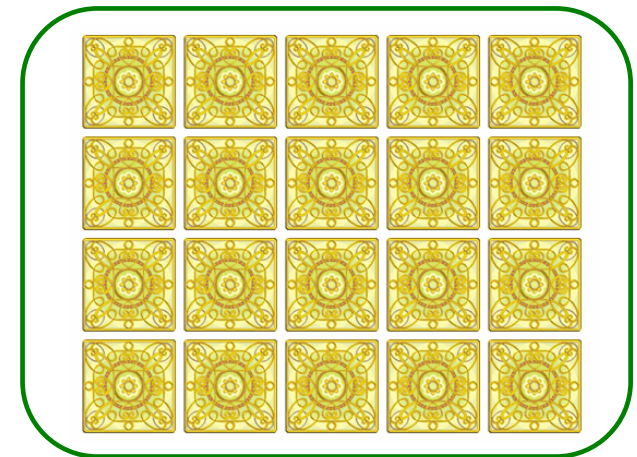≡ **Participation:**

Letting the user participation actively

≡ **Breaks and energizers:**

Interrupting the lecture with a pause or a game

≡ **Storytelling:**

"Have you heard about the one…"

Memory game as energizer

(PONS)

Persuasive Technology

≣ Definition of Persuasion

  ≣ „An attempt to change attitudes or behaviors or both" (Fogg, 2003)

≣ Definition of Persuasive Technology

  ≣ Using computers in terms of persuasion

  ≣ Persuasive technology tool = „Interactive product designed to change attitudes or behaviers or both (…)" (Fogg, 2003)

≣ Connection between Persuasive Technology and Motivation

  ≣ Using persuasive technology tools to increase the learner's motivation

Persuasive Technology

≡ Types of Persuasive Technology Tools

≡ **Reduction:**

Simplifying instructions, reducing their complexity

≡ **Tunneling:**

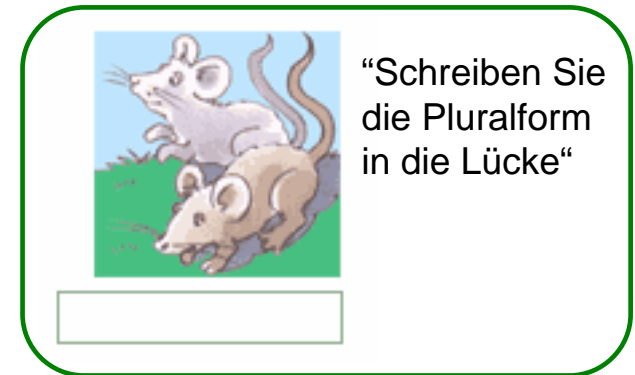Providing a guided sequence of action

≡ **Tailoring:**

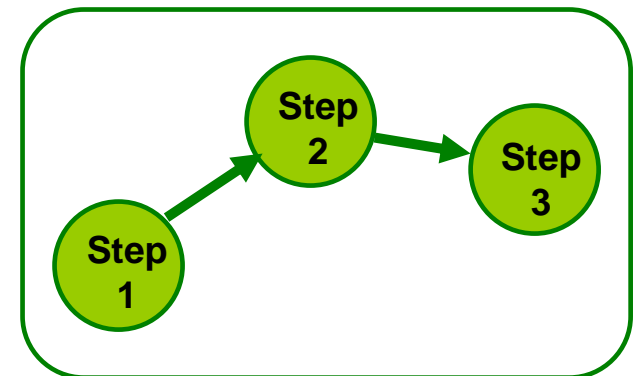Providing only relevant information

≡ **Suggestion:**

Making suggestions in opportune moments

"Schreiben Sie die Pluralform in die Lücke"

Reduction   (PONS)

Tunneling   (PONS)

Persuasive Technology

≡ Types of Persuasive Technology Tools (cont.)

≡ **Self-Monitoring:**

Allowing the learner to monitor themselves

≡ **Surveillance:**

Observing the learner

≡ **Conditioning:**

Giving positive reinforcement

GOOD WORK!

Conditioning:
Positive reinforcement

(funschool.com)

Motivation Techniques in E-Learning Applications

≡ Analysis of three different E-Learning

applications:

≡ **English learning software:**

"ENGLISCH – Die Sofort-Grammatik auf CD-ROM" (PONS)

≡ **Nintendo DS game:**

"Dr. Kawashima's Brain Training: How Old Is Your Brain?"

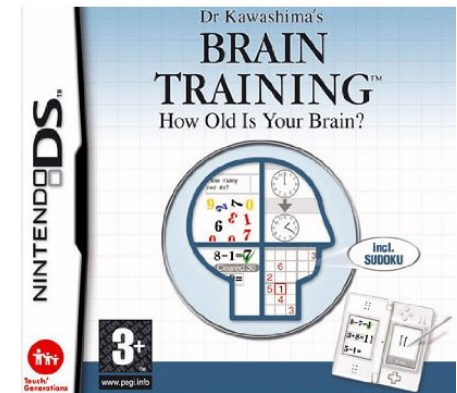≡ **Online learning platform for children:**

"funschool.com"

(PONS)

(funschool.com)

(amazon.com)

Motivation Techniques in E-Learning Applications

≡ English Learning Software „ENGLISCH – Die Sofort- Grammatik auf CD-ROM"

≡ Grammar and vocabulary training are provided

≡ Divided into several chapters with different focuses

≡ A Test at the end of each chapter

≡ Feedback in form of a statistical view can be shown at every time

PONS

ENGLISCH
Die Sofort-Grammatik auf CD-ROM

Richtig sprechen – in Urlaub und Alltag
Große Übungsvielfalt mit einfachen Erklärungen
Zahlreiche Nachschlagefunktionen
Mit Online-Service

Sofort zum Erfolg!
Grammatik schnell gelernt
auf PC & Mac.

(PONS)

Motivation Techniques in E-Learning Applications

≡ English learning software

  ≡ Elements from the Time Continuum Model:

    ≡ **Beginning phase:** setting up clear goals

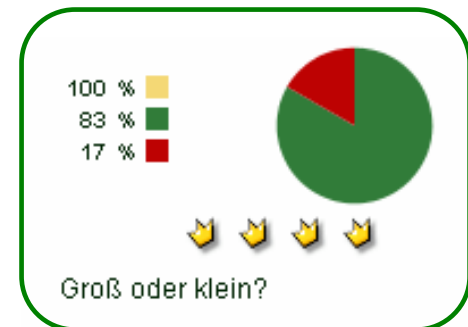   ≡ **Middle phase:** variation in presentation style

Graphical and auditory   Textual and auditory

    ≡ **End phase:** no positive reinforcement, but feedback

      possibilities

Setting up clear goals

(All pictures from PONS)

Motivation Techniques in E-Learning Applications

≡ English learning software (cont.)

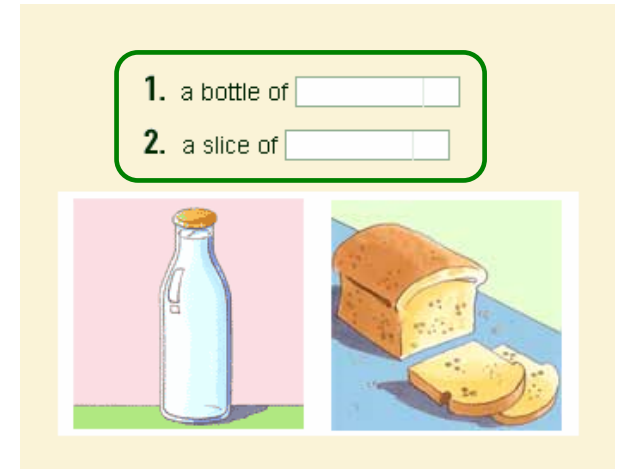≡ Elements from the ARCS Model

≡ **Attention:**

Possibility of participation

≡ **Relevance:**

Present/future goals are set up (see the

Time Continuum Model)

≡ **Confidence and Satisfaction:**

Possibility of repeating lectures

and getting feedback (see the Time

Continuum Model

Participation possibilities
during a lecture

User can repeat as often as he wants

(All pictures from PONS)

Motivation Techniques in E-Learning Applications

≡ English learning software (cont.)

   ≡ Other techniques

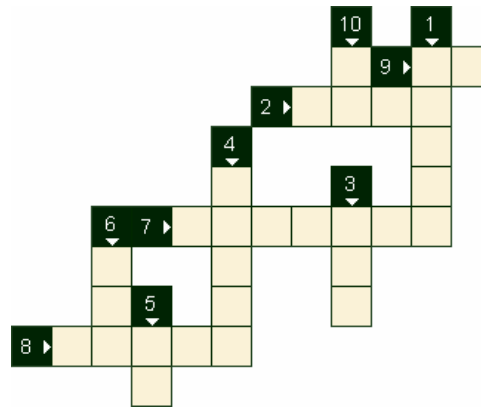   ≡ **Anticipation:**

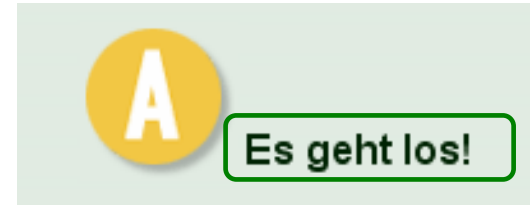   Phrases like "Es geht los!" capture attention

      ≡ **Breaks and energizers:**

      Crossword Puzzles

      during a lecture

      ≡ **Storytelling:**

      Stories about the characters Kate and Paul are told

A Es geht los!

Phrase that captures attention

Crossword puzzle
as energizer

(All pictures from PONS)

Motivation Techniques in E-Learning Applications
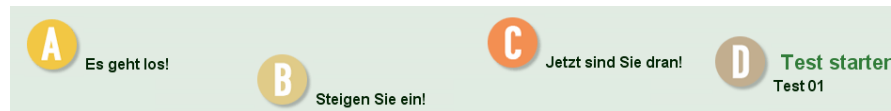

≡ English learning software (cont.)

≡ Persuasive Technology Tools

≡ **Reduction:**

Only concrete information

≡ **Tunneling:**

Guided sequence of steps in each chapter

Concrete information

≡ **Self-monitoring:**

User can access statistics whenever he wants

Learning progress can be accessed at any time

(All pictures from PONS)

Motivation Techniques in E-Learning Applications

- "Dr. Kawashima's Brain Training"

  - Game for the portable console Nintendo DS

  - After an initial test (mental arithmetic, etc) the user's "brain age" is calculated

  - User has to reduce his "brain age" by solving little tests (as fast as possible) each day
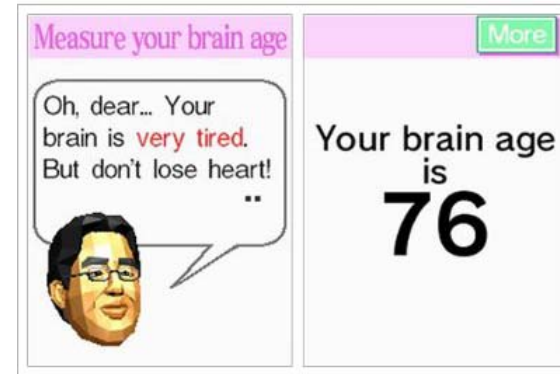
  - A calendar shows a statistic view of fulfilled tasks
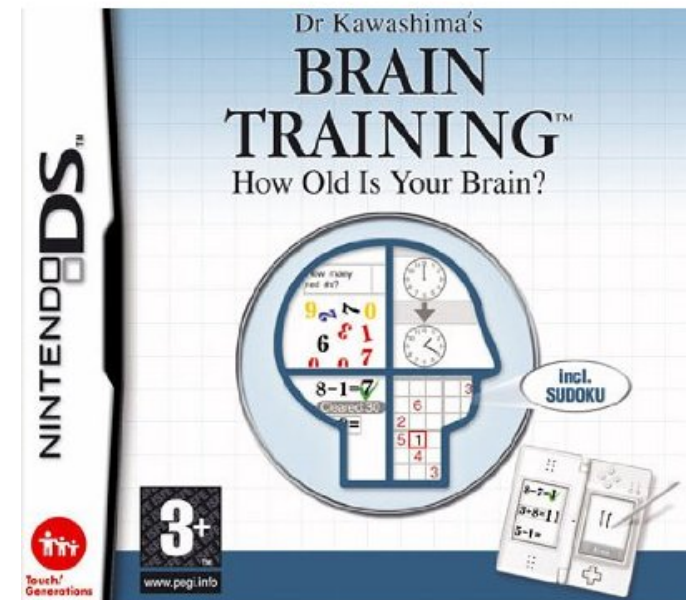
(amazon.com)

Motivation Techniques in E-Learning Applications
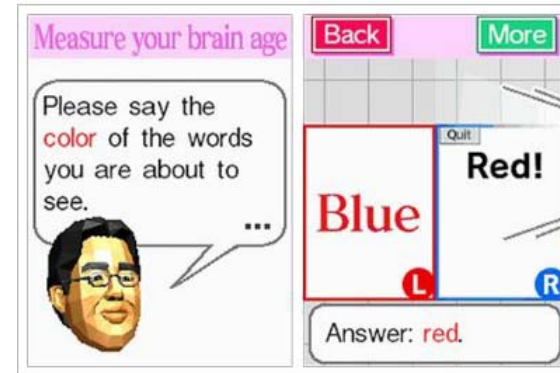
≡ "Dr. Kawashima's Brain Training"
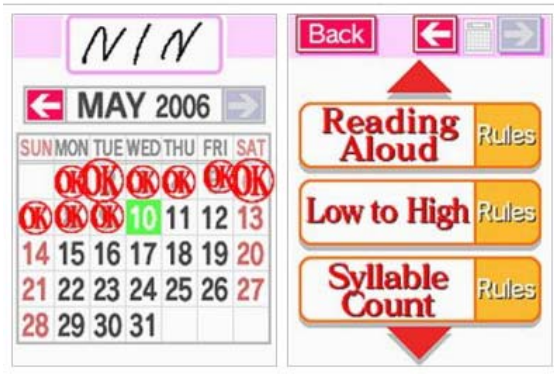
Feedback is given frequently

Positive reinforcement

Confidence: showing the user's progress

Different Interaction possibilities

(All pictures from amazon.com)

Motivation Techniques in E-Learning Applications

≡ "funschool.com"

  ≡ Online learning platform for children of pre-school or elementary school

  ≡ Children learn maths, history, creativity, etc. in a playfully way

  ≡ A lot of learning games provide a great variety, e.g. a fun quiz about historic questions, a fishing game (learning to count)

(funschool.com)

Motivation Techniques in E-Learning Applications

≡ Learning Platform "funschool.com"

A lot of positive reinforcement

Relevance: extra section "pre-school"

Anticipation: phrases like "Print a Creepy Crawlies Puzzle!"

Reduction: only concrete, short information

(All pictures from funschool.com)

Comparison

≡ Similar motivation techniques used in all applications

≡ Most important methods:

  ≡ Reduction

  ≡ Relevance

  ≡ Variation of presentation style

  ≡ Asking questions

  ≡ Participation through interaction possibilities

  ≡ Feedback

≡ Differences between the applications (because of different target groups)

  ≡ More positive reinforcement on "funschool.com" than in the English software

  ≡ Less feedback on "funschool.com" than in the other two applications

Conclusion

≡ Classical Motivation Models are still relevant

≡ Not all Persuasive Technology Tools are useful for E-Learning-Applications

≡ The use of techniques depends on the target group

≡ Existing motivation techniques are a good base, but in order to increase motivation of learners, further methods especially adjusted to E-Learning settings have to be considered