

Motivation and Persuasion in E-Learning

Hauptseminar "E-Learning – Sommersemester 2008

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22.07.2008

Motivation and Persuasion in E-Learning

☰ Outline

- ☰ E-Learning 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



“Manding stimuli”

(funschool.com)

Classical Motivation Models / Techniques

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

Inquiry:

Asking frequent questions

Participation:

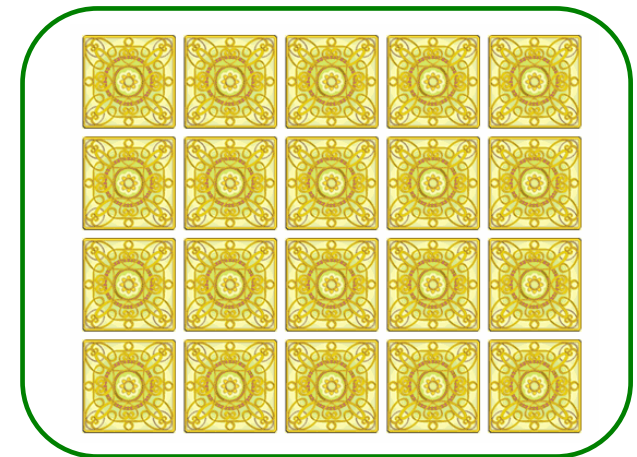
Letting the user participation actively

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 behaviors 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:**

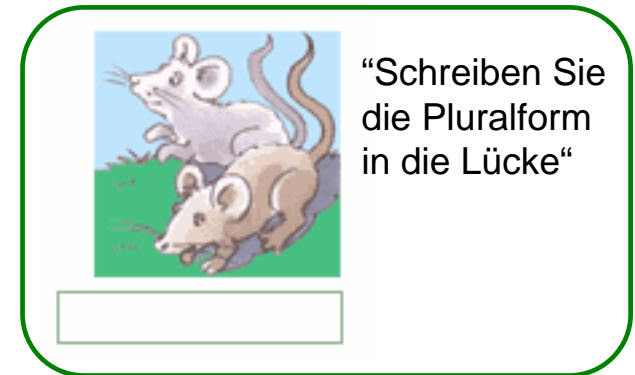
Providing a guided sequence of action

≡ **Tailoring:**

Providing only relevant information

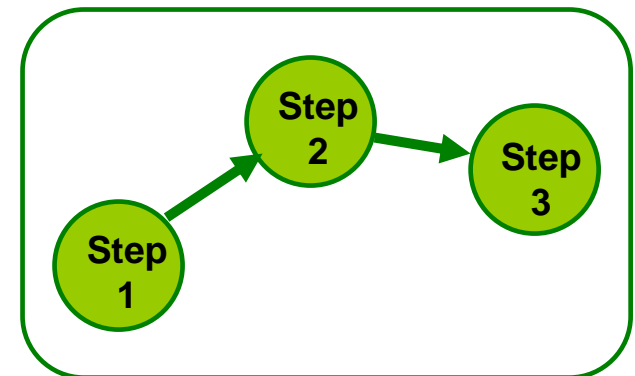
≡ **Suggestion:**

Making suggestions in opportune moments



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



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:**

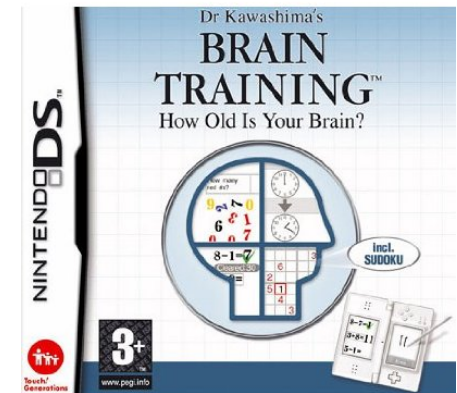
“funschool.com“



(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)

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



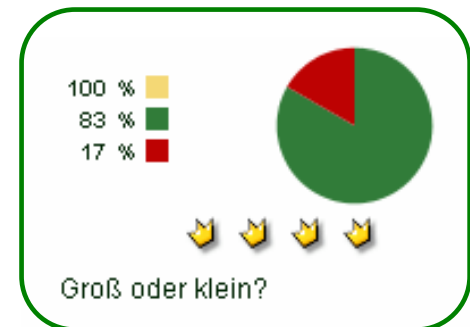
Textual and auditory

- End phase:** no positive reinforcement, but feedback possibilities

B **Steigen Sie ein!**

Bildung des *present simple*
Verwendung des *present simple*
Kate meets a friend
Verneinung und Fragen
Das Verb *be*
Kurzantworten

Setting up clear goals



Motivation Techniques in E-Learning Applications

English learning software (cont.)

Elements from the ARCS Model

Attention:

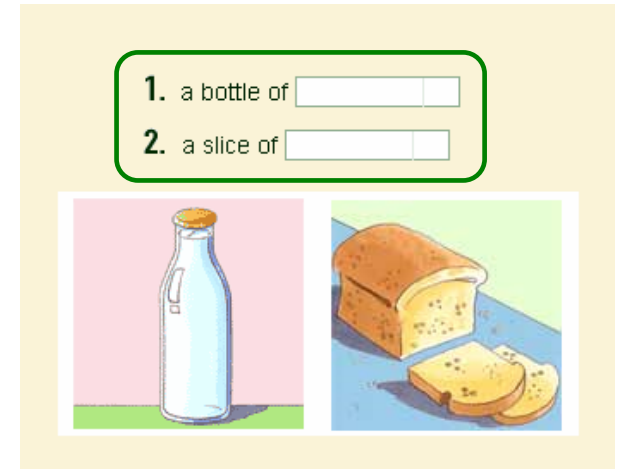
Possibility of participation

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

Motivation Techniques in E-Learning Applications

English learning software (cont.)

Other techniques

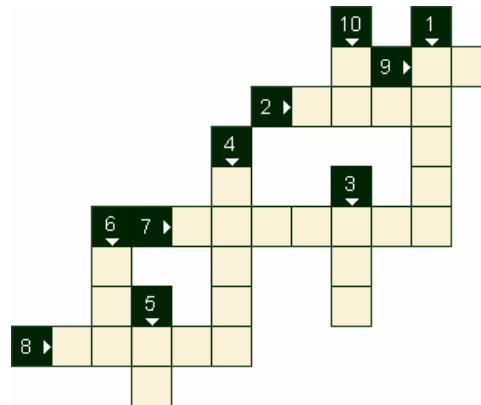
Anticipation:

Phrases like “Es geht los!” capture attention

Breaks and energizers:

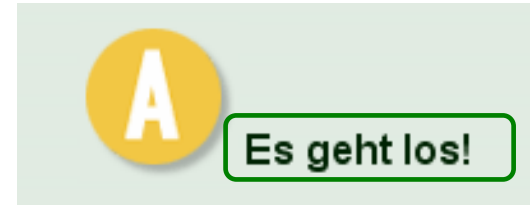
Crossword Puzzles

during a lecture



Storytelling:

Stories about the characters Kate and Paul are told



Phrase that captures attention

Crossword puzzle
as energizer



Motivation Techniques in E-Learning Applications

English learning software (cont.)

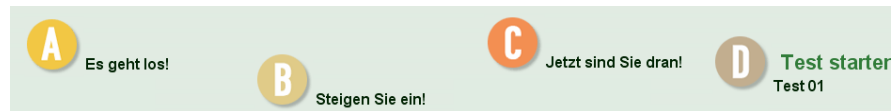
Persuasive Technology Tools

Reduction:

Only concrete information

Tunneling:

Guided sequence of steps in each chapter



Self-monitoring:

User can access statistics whenever he wants

Gut zu wissen!

Das Wort für Sprache und Nationalität ist im Englischen oft gleich.

I'm English.

Ich bin Engländer.

She speaks English.

Sie spricht Englisch.

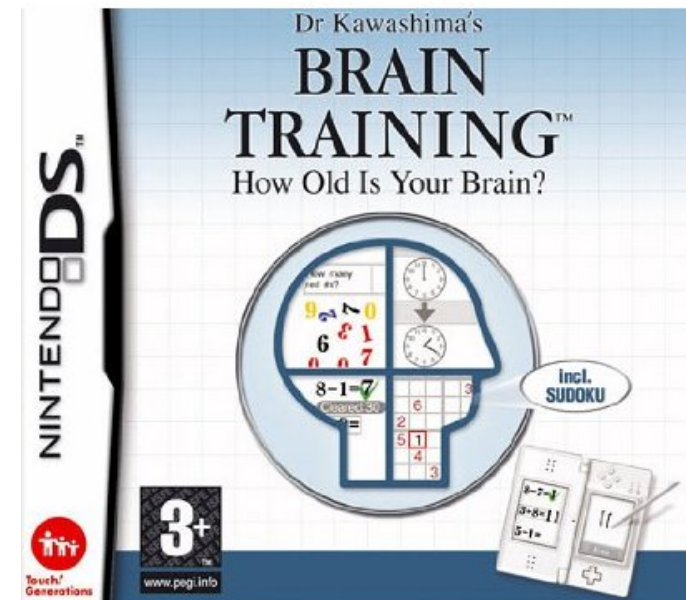
Concrete information



Learning progress can be accessed at any time

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



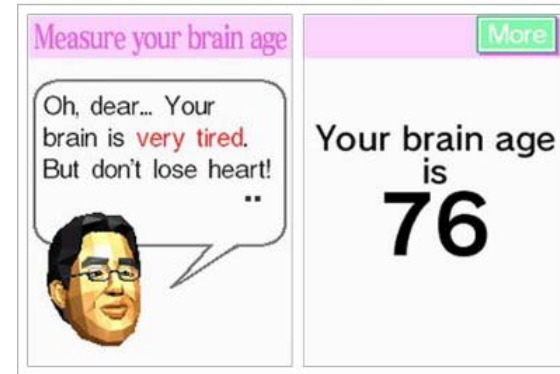
(amazon.com)

Motivation Techniques in E-Learning Applications

☰ “Dr. Kawashima’s Brain Training”



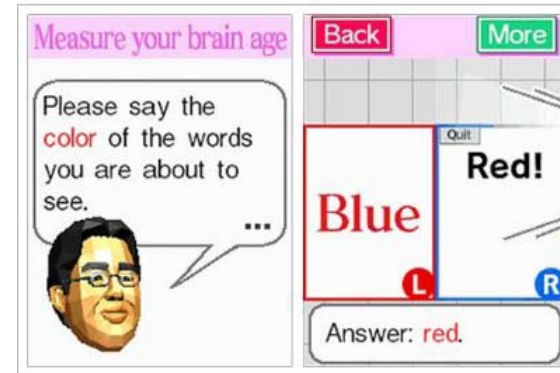
Feedback is given frequently



Positive reinforcement



Confidence: showing the user's progress



Different Interaction possibilities

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

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