

MOTIVATIONAL COURSEWARE DESIGN USING THE ARCS MODEL





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Motivating Courseware?

How can I make my courseware interesting?
 Are you creating a game?
 No, I just want to make my courseware engaging!

Not boring, but not just entertaining courseware

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Motivational Courseware Design using the ARCS Model

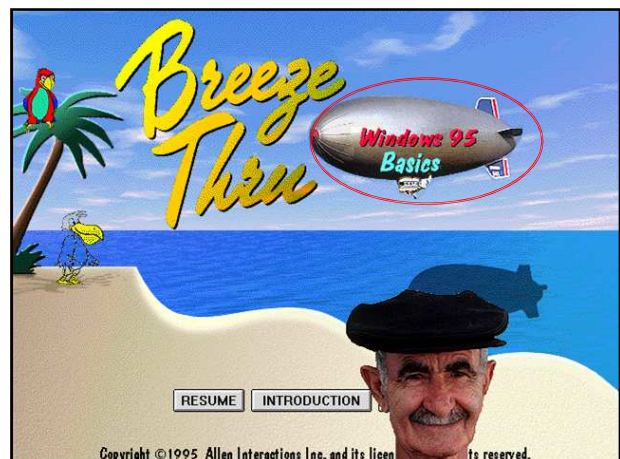
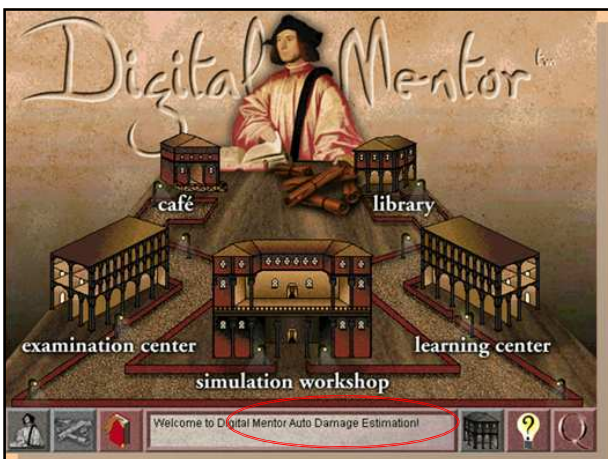
1. **Checklist for Multimedia Instructional Design**
 - What makes courseware engaging?
2. **The ARCS 4 factors**
 - What is the ARCS model ? What are the four factors for engaging courseware?
3. **Motivational design process**
 - What are the major steps to make courseware engaging to the learners?

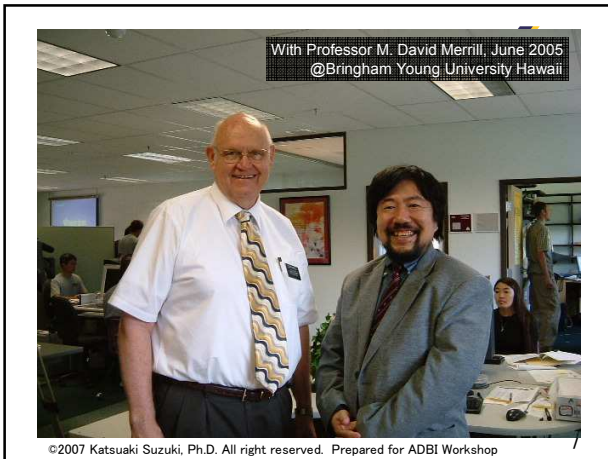
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Some Examples of Multimedia Courseware

Thanks to Prof. M. David Merrill








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Checklist for Multimedia Instructional Design (Suzuki, 2004)

Kumamoto University

- 1. Title Screen (Event 1)**
- 2. Introduction (Events 2 & 3)**
- 3. Menu Structure**
- 4. Information Presentation and Learning Guidance (Events 4 & 5)**
- 5. Practice and Feedback (Events 6 & 7)**
- 6. Evaluation and Ending (Events 8 & 9)**

Based on: Keller, J.M., & Suzuki, K. (1988). Use of the ARCS motivation model in courseware design (Chapter 16). In D.H. Jonassen (Ed.), *Instructional design for microcomputer courseware*. Hillsdale: Lawrence Erlbaum Associates, 401-434.

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1. Title Screen (Event 1)

Kumamoto University

- Capture user's attention? (A-1)**
- Related to the content of the material? (A-2)**
- Not forcing users to view long animation? (A-1)**

Based on: Keller, J.M., & Suzuki, K. (1988). Use of the ARCS motivation model in courseware design (Chapter 16). In D.H. Jonassen (Ed.), *Instructional design for microcomputer courseware*. Hillsdale: Lawrence Erlbaum Associates, 401-434.

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2. Introduction (Events 2 & 3)



- Give users the feeling "This is for me!"? (R-1)
- Objectives are clearly stated, easy to understand? (R-2; C-1)
- State Usefulness and Values of attaining objectives? (R-2)
- Users can judge if they have prerequisites? (C-1)
- Give review opportunities for prerequisites? (C-1)

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3. Menu Structure



- Provide a menu so that users can select order of learning? (C-3)
- Overall structure is clear to the users? (C-1)
- Divided into short sections to prevent boredom? (A-3)
- Users know how much they finished and how much more to complete? (C-1)
- Sections the users finished are marked as completed? (S-2)
- Advices are given when users have options to select? (R-3)
- Menu can be accessed soon after starting? (C-3)

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4. Information Presentation and Learning Guidance (Events 4 & 5)



- Not page after page information presentation consecutively? (A-2)
- Ask questions to motivate the users from time to time? (A-2)
- Order the contents from easy to more difficult? (C-1)
- Users can detect weak points from early stages? (C-2)
- Have adequate concreteness with familiar examples and illustrations? (R-1)

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5. Practice and Feedback (Events 6 & 7)



- Provide practice opportunities in risk-free situations? (C-2)
- Informational feedbacks are given for wrong answers? (C-2)
- Affective feedbacks are given for correct answers? (S-2)
- No negative/critical feedbacks for wrong answers? (S-2)
- No interesting feedbacks for wrong answers? (A-1)
- Chances for re-try are given? (C-2)

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6. Evaluation and Ending (Events 8 & 9)



- Hold evaluation criteria constant throughout the material? (S-3)
- Passing criteria and evaluation conditions are clear in advance? (S-3)
- Affiliate success to users' effort? (C-3)
- Position users' success in a bigger picture (future advances)? (R-2)
- Provide immediate opportunities to apply knowledge/skill that user just mastered? (S-1)

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Engaging instruction




- **Not entertainment, but engagement**
- **Motivation as input**
- **Motivation as output: Continuing motivation in life-long learning area**
 - I studied very hard, and now I can do it, but I don't want to do more, if I have a choice.
- **Self-regulated Learning (SRL): From teacher control to learner control**
 - Motivation as a self-control skill for own learning

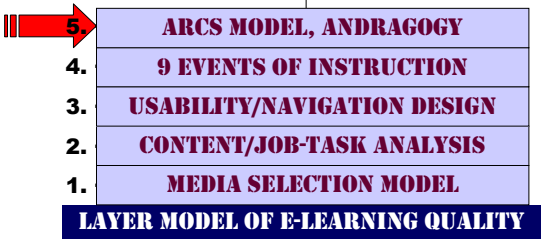
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Layer Model of e-Learning Quality (Suzuki, 2005)




- Engagement (Motivation) is in the top layer of the Layer Model.



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What is ARCS model and why it is important?



- ARCS Model was born in 1983 in USA
- Founder : John M. Keller
Professor, Florida State Univ.  ケラー教授
- Challenges of Learner Motivation can be divided into 4 categories: ARCS.
 - Attention
 - Relevance
 - Confidence
 - Satisfaction

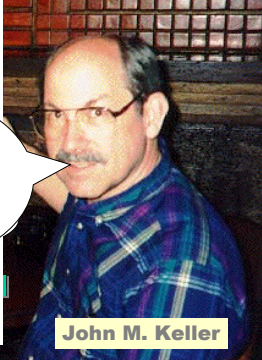
Three Aims of Instructional Design Theories is to make your instruction:
 More effective
 More efficient (with less cost)

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ARCS MODEL OF MOTIVATIONAL DESIGN



- Based on many psychological research
- Geared toward learner
- Easy to use for instructional designers and instructors

Katsu is my student, so please kindly listen to him.

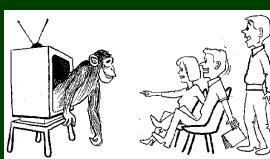
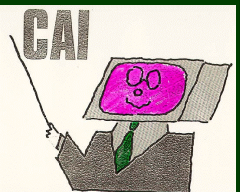


John M. Keller

Attention Interesting!






If your material captures learner's attention, it is because it's interesting!

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Relevance I see the importance!

If the learner can see the value of studying the material, it is Relevant to the learner's need.


Relevance can come from the results of learning (e.g., improved ability); it can also come from enjoying the process of learning (e.g., competition).

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Confidence *I can do it if I try!*

ARCSmodel

If the learner feels it's **possible** to master, s/he is Confident in learning.




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Satisfaction *I am glad I did it!*

ARCSmodel

If the learner feels happy about the **outcome** of learning, s/he gets Satisfaction.

Satisfaction will become **continuing motivation** for next learning.



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Theories underlying the ARCS Model

ARCSmodel

Attention Relevance Confidence Satisfaction

Stages of Desire (Maslow) Locus of Control (Lottor) Self Efficacy (Bandula)


Practical Model with many Psychological Models behind

Accomplishment Motive (Atkinson) Expectation-Value Theory Self-Determination (deCharm)

Reinforcement Value (Lottor) intrinsic vs extrinsic motivation Learned helplessness (Seligman)

Curiosity (Berline) Attribution Theory (Weiner)

Anxiety(Miller)



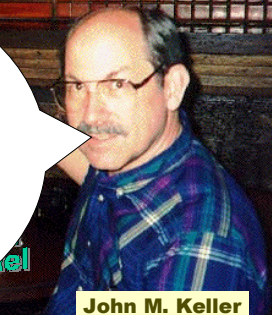
Subcategories of ARCS

(Keller & Suzuki, 1988)

A	A-1:Perceptual Arousal A-2:Inquiry Arousal A-3:Variability
R	R-1:Familiarity R-2:Goal Orientation R-3:Motive Matching
C	C-1:Learning Requirement C-2:Success Opportunities C-3:Personal Control
S	S-1:Natural Consequences S-2:Positive Consequences S-3:Equity

Keller, J. M., & Suzuki, K. (1988). Use of the ARCS motivation model in courseware design (Chapter 16). In D. H. Jonassen (Ed.), *Instructional designs for microcomputer courseware*. Lawrence Erlbaum Associates, U.S.A.

ARCS MODEL OF MOTIVATIONAL DESIGN



I hope my ARCS model can help you guide to analyze motivational challenges of your students. If you have any questions, ask Katsu, or directly me.

John M. Keller

What are the 4 factors for engaging courseware?

ARCSmodel

- Different learner has different reasons why they are not engaging.
- ARCS 4 Factors will guide you to decide what is (are) the problem(s).
 - Is it because lack of Attention, Relevance, Confidence, or/and Satisfaction?
- The worst thing to do: to try to motivate learners **who are already motivated** and want to learn your courseware.
 - In this case, the best thing is not to try to motivate them, but **start your instruction now**.

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Components of ARCS

Systematic Process for pinpointing
Collection of hints for motivational improvement
4 factor model with 3 sub-categories for each

Motivational Design Process
Motivational Strategies
Design Framework

Tool to Enhance Engagement

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Process of ARCS Motivational Design

Did it work? What should be done? → **Evaluation & Revision**

What are the fewest set of strategies? → **Strategy Selection**

What is/are motivational problem(s) of learners? → **Audience Analysis**

Tool to Enhance Engagement

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Simplified Method of Motivational Design (Suzuki & Keller, 1995)

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Simplified Method of Motivational Design (SMMD) (Suzuki & Keller, 1995)

Factor	Attention	Relevance	Confidence	Satisfaction
Learners (How are they motivated?)	.Attentive? .Easy to be bored?	.Important subject for them?	.Good at this subject? .Feel manageable if they try something	.Enough past experiences? .Any negative past experiences?
Task (Are the task at hand motivating?)	.Interesting? .Any attention getting features?	.Importance of learning natural, or easy to see? .Need persuasive messages to show relevance?	.Task difficulty seems high? .Dividable to smaller subtasks? .Seems feasible to succeed?	.Natural feeling of satisfaction when completed? .Advance tasks available for those who succeeded?
Strategies (Reaping benefits and overcoming drawbacks)	.Unusual opening? Stimulated curiosity? Speed, rhythm, and occasional changes?	.Persuasive messages for task importance? Examples from familiar contexts? Learning process fun and enjoyable?	.Expectations made clear? Slow start with easier tasks, then gradually higher levels? Can be proud of themselves when succeeded?	.New learning made naturally applicable? Help rewarding among learners? Feel safe to work hard in a stable environment?


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A case of international e-mail lesson for 7th grade students: LEARNERS

A	.Elective, not required, course (+) .High interest (+)
R	.High commitment (+)
C	.Low skill in typing(-) .Low skill in conversational English (-)
S	.Newly formed class of students (-) .Familiar teacher (+)

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A case of international e-mail lesson for 7th grade students: **TASK**



A	.New (+) .Attractive(+) .Adventurous(+)
R	.High public interest to the Internet(+) .Useful for the future(+)
C	.Seems difficult (-) .First exposure (no prior experiences) (-)
S	.High applicability of acquired skill (+) .Exciting outcome of learning (+)

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A case of international e-mail lesson for 7th grade students: **STRATEGY**




A	.Not needed
R	.Not needed
C	.Set learning tasks cumulatively, from low to high .Team teaching with an Assistant English Teacher .Use translation software
S	.Warm-up activity for group self-introduction

From: Suzuki, K., Keller, J. M., & Computer Project Team (1996). Using ARCS motivational design matrix: Designing units using computers at Sendai Daiichi Junior High School. A paper presented at the 21st Annual Meeting of the Japan Society for Informatics and Systems in Education, Kanazawa, JAPAN

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