Model for the Evaluation of Educational Games

EASY WAY FOR EVALUATING EDUCATIONAL GAMES

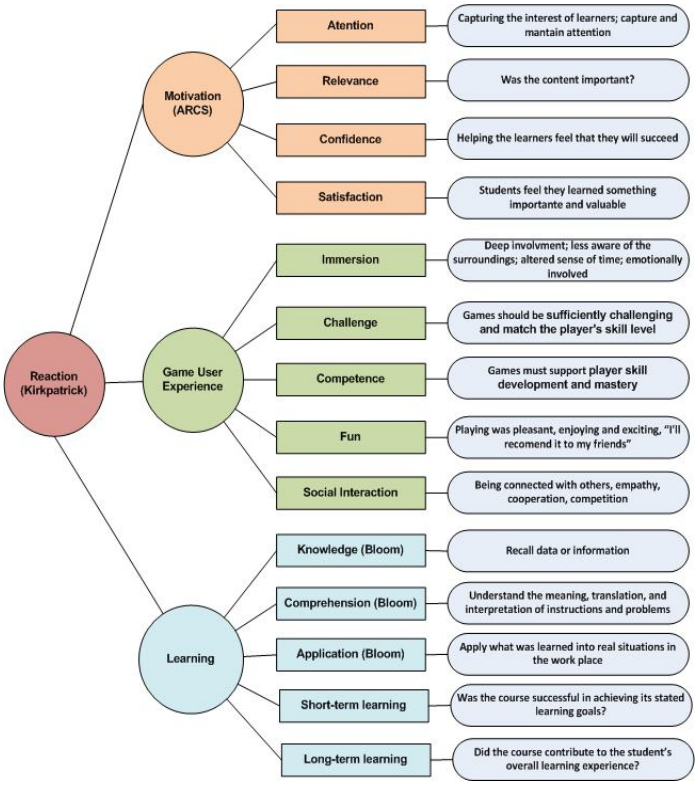
Evaluate a game with minimum overhead and effort.

COMPREHENSIVE EVALUATION

The model allows to evaluate the quality of a game with respect to motivation, user experience and learning impact.

SOUND RESEARCH

The model has been systematically developed by a multidisciplinary team and evaluated through several case studies.



The abstract concept of game quality has been systematically decomposed with respect to level 1 of Kirkpatrick's evaluation model (reaction) into:

- Motivation

Based on the ARCS model, the model allows to evaluate if the game captures the attention of the students, shows the relevance of the learning object and motivates them to use the knowledge learned.

- User experience

This component intends to evaluate if the game promotes a enjoyable learning experience and leaves the students at ease, facilitating the learning process.

- Learning

Based on Bloom's taxonomy of learning objectives, the model contributes to the evaluation of the game's impact on the learning principally with respect to the levels of remembering, understanding and applying.

This model aims to assess the quality of educational games through the students' perceptions about levels of motivation, user experience and learning promoted by one game.

The model has been developed to facilitate the evaluation of educational games with the following requirements:

- Focus on educational games with clear defined learning objectives.
- Be able to assess the effects of games on motivation, user experience and learning.
- Allow formative assessment to guide the iterative improvement of the games as well as summative evaluation in order to compare games and/or different versions.
- Be applicable to board games, card games as well as computer games to be used in the classroom.
- Be brief, avoiding overhead minimizing the interruption of the instructional unit.
- Be easy to apply not requiring advanced knowledge with respect to measurement and statistics.
- Be adaptable to instructional design models.

Considering these requirements, the model is designed for one-shot case studies with data collection via a standardized questionnaire after the application of the educational game.

GQS
Grupo de Qualidade de Software

How to use the model?

1. Revise/adapt the objective of the evaluation
2. Revise/adapt the research including the definition of its context, hypotheses, variables, research design and instrumentation.
3. Plan the evaluation in terms of participants, schedule, etc.
4. Execute the evaluation collecting data via questionnaire.
5. Analyze the data collected using the analysis template.
6. Interpret the analyzed data.

Available support material

- Detailed description of the model and method (in Portuguese only) (PDF)
- Template of evaluation plan (MS DOC)
- Questionnaire (MS DOC)
- Spreadsheet template for data analysis (MS XLS)

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More information

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