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Designing The Persuasive Learning Experience

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While the persuasive strength of a *digital learning object* will vary from learner to learner or from learning setting to learning setting, there are *persuasive design* strategies that are likely to apply to a larger number of educational settings. This paper discusses some of these design strategies and attempts (from the viewpoint of *persuasive learning*) as well as design considerations that shall help designers of digital learning objects to develop high-quality persuasive learning designs for their audiences.

The objective of this paper is to present key findings of research that has been made in *EuroPLOT*, a 3-years LLP project, as well as to propose overall design recommendations for persuasive learning objects. We are aiming at the involvement of persuasive strength as a new principle when designing digital learning objects.

Keywords: Learning Design, Persuasive Design, Persuasive Learning, Evaluation

Introduction

This is a paper resulting from the evaluation of the EuroPLOT project and explores the interrelations of the two disciplines learning design and persuasive design. It is based on research undertaken among a sample of learners in four pilot projects of different educational areas. The aim of this particular study was to gather evidence in relation to the following key question: How should persuasive learning experiences be designed?

We started to elaborate on this question by approaching the user of learning objects as a multiple character: The user is a learner (aspects of learning design) but also a user who interacts with an interactive learning system (aspects of usability design) and responds to emotional encouragement and involvement (persuasive abilities of design) throughout the process of learning. We are aiming at the involvement of persuasive strength as a new principle when designing and/or evaluating digital learning objects. We want to extend the current practice of learning designs by focusing not only on cognitive but also on persuasive considerations that relate to learning. Our approach goes beyond the functional usability paradigm of learning design and proposes persuasiveness as a new type of measurement.

Methodology

The underlying study of our paper was both quantitative and qualitative in approach and a mixture of focus group discussions and online surveys was used. The first stage of this was a series of in-depth discussions with learners who had worked with persuasive learning objects that designers of the project developed. In addition to these discussions, an analysis of data from an online questionnaire was conducted to gather further information about provision across the three different contextual sectors in the study. Also a review of prior studies in the disciplines of usability design, learning design and persuasive design was conducted to identify complementary design strategies. With respect to the later, we particularly looked at Persuasive Design as a design strategy that enables designers of learning objects to respond more flexibly to motivational and effective needs of learners (Fogg 2003).

Key Findings

In practice, there is a positive attitude towards the overall appearance and instructional approach of the developed learning objects across all disciplines. The instructional designs of the piloted learning objects were felt (by the learners) to be both creative and comprehensible, with a high level of concern for active learner engagement and motivation. Constructive alignment has been found to be a key principle for which learners perceived learning objects as beneficial for their learning (Biggs & Tang 2007). However they expressed a need for more self-reflective forms of learning and more elaborated interactive content. Particularly challenging learning experiences with explorative learning activities were considered to be highly useful for their learning, as well as more established components such as quizzes, progress control and step-by-step guidance (see 'Tunneling' by Fogg 2003).

Both learners and designers of the EuroPLOT pilot projects generated debates about the complexity of learning resources and the appropriate level of detail that was necessary to present new concepts or ideas. They all agreed that there is a fine line between a too narrow and a too broad presentation of details. Learners from the Higher Education sector (e.g. the Hebrew learning case) critically questioned some of the exercises of the piloted learning resources in the light of different curriculum expectation levels (e.g. between beginners or advanced learners, lower or higher-grade levels) whereas learners from the Vocational Education sector rather felt persuaded when learning activities would prepare them sufficiently for practical work situations and related to practical contexts (e.g. in the Exposure scenario case). Instructional design strategies that set value more on a learner specific customization and/or reduction of the digital learning content will potentially lead to contribute to the point of persuasion (see 'Tailoring' and 'Reduction' by Fogg 2003).

The most consistent lack across all the three disciplines was identified with respect to an absence of self-monitoring activities as well as little stimulation towards immersion (see 'Self-Monitoring' and 'Suggestion' by Fogg 2003). Some learners also expressed concerns about the specific practices and relevancy of how feedback and response needs to be provided in the digital learning experience. In fact, not all learners were aware of the entire range of possibilities that the feedback options of the learning resources offered them to enhance their learning. Hence, important educational and/or motivational effects have been lost. In some cases, if feedback was of less immediate concern to a learner's own attitudes or concern, the feedback was not raised as utterly motivational or it was even ignored as such.

A key aspect of the designers' role in the whole learning experience is about negotiating commitments to learning as well as about assuming the positions and learning preferences of the targeted learners in advance. Typical questions that designers with an attempt to persuasive learning strategies should think about are: "Who are the learners and what is their current opinion on the taught issue?", "What might be the motivation or purpose for their opinion or attitude?" or "What arguments or pedagogical strategies are most likely to persuade them?". Despite the fact that knowing the audience is one of the key qualities of the expert learning designer, designers should be clear of the fact that they will not be able to persuade every single audience member with their learning designs!

While the persuasive tactics of learning designs will vary from occasion to occasion, there are tactics that are most likely to apply to a larger number of learning scenarios or settings. The following list presents a set of persuasive design consideration that may help designers to embed persuasive tactics in their learning designs. These tactics (which are only exemplary at this point) will go beyond common instructional design guidelines, but do not necessarily compete with them:

- **Attention.** The first impression is important! The opening of learning objects (or of a subset, e.g. a chapter) therefore is a significant and opportune moment to capture attention of learners and/or to shape their opinion. Contradictory statements, questions or humor can increase attention quite easily.
- **Time.** Learners do not have time to waste with irrelevant details, clicks or links. If designers wait too long with explaining and/or demonstrating key issues and concepts, or if they are too importunate with too much repetition and immersion, the learning object can lose people's attention as well as their credibility.
- **Detail.** The designer of persuasive learning content should make sure that the main points are concise, clear and presented to the level of detail that is relevant to achieve the targeted learning outcomes.
- **Efficiency.** Smaller and less time consuming learning activities will make the performance of a learning object more practicable and motivating for learners than complex learning paths. The higher the complexity of a learning activity, the more time learners will have to invest to work efficiently through the learning experience.
- **Reinforcement.** Concluding statements or reflective tasks at the end of a learning object (e.g. quizzes), or at a crucial point during the learning experience, can help to repeat core concepts or positions without too much of redundancy or force.
- **Simplicity.** Designers should make sure that interactive tasks do not require too much time or efforts from the learner. Otherwise they may lose their attention, or distraction may occur. When learners lose attention they are not likely to be persuaded.
  Guidance. Designers of learning objects should also give unambiguous and specific instructions of what learners are asked to do.
- **Benefits.** When new opinions or positions are explained in the learning object, the benefits and motivation of the position should be clear to the learner. From the designer's point of view, the benefits that are given should respond to the very position of the targeted learners, their contexts, beliefs or attitudes.
- **Flexibility.** Didactic flexibility and diversification is the best tactic of designers to make that action request. If the target learner hesitates to accept a targeted learning activity, the learning object should offer an alternative activity (for example a less complex task, a different didactic approach, or a new learning journey).
- **Feedback.** Learners like to know if their actions have made a positive difference. They should be informed of the consequences of their commitment and/or action. Even if the intention of the feedback is not primarily intended to motivate learners, this is how the feedback is usually perceived by the learner.
- **Commitment.** Any kind of committed action (e.g. accepting a button to start a learning activity or to confirm or disagree with an opinion) will lead to attention and active engagement in the learning experience, and potentially result in higher persuasion.

Instructional designs that consider either of these tactics are more likely to answer to a high persuasive design attempt of a designer. However, designers must understand that persuasive learning objects are not persuasive simply for the fact that they embed persuasive strategies or apply persuasive design principles (Fogg 2003). A core aspect of persuasive learning design is the building on the interests and individual beliefs of learners. Persuasive learning design is expected to clearly identify benefits with the greatest appeal to the users of the learning objects. Designers are requested to respond to them most flexibly for the purpose of persuasion when developing the learning content. Rethinking the channels and methodologies of self-regulated learning, increased personalisation as well as active learner involvement in the learning experience will respond to the specific demands of persuasive learning design.

With no doubt, learning motivation and attitudes are likely to benefit if flexible, personalised and learner-centred learning strategies are embedded in learning designs. Some learners of the evaluated pilot projects stressed the fact that they benefited from the digital learning objects (as a complementary learning resource for their face-to-face teaching units) because they were able to deepen their knowledge and experience in a more explorative from, particularly when they studied new and/or more complex concepts. The learning activities helped them to see new aspects of a topic (or to reflect more thoroughly on them), or even lead to discover misconceptions. It was obvious that particularly the interactive incentives of self-regulated learning had an impact on learners' motivation to learn as well as that different forms of interactive learning enhanced their attraction and interest in the whole learning experience.

As regards the content and the intended learning experience of a persuasive design attempt in education, the following characteristics were identified as a result of the different design considerations that were raised in discussions with learners, designers as well as literature reviews (see Table 1).

Designing the Persuasive Learning Content	**Designing the Persuasive Learning Experience**
• The content offers benefits or rewards to the intended audience. • The content offers prompt, constructive and personalised feedback. • The content suggests that a learning benefit is particularly valuable or scarce. • The content is mediated at the contextually appropriate time. • The content appeals to the norms and/or learning preferences of the learners. • Key concepts of the content are repeated without too much force to support reasoning or to gain attention. • The content refers to other, more complex material (on request). • The content is mediated through appropriate technology, for example interactive and explorative tasks. • Content is delivered in an interactive and self-controlled learning pace.	• The learning experience is consistent with previous beliefs, actions or expectations of the audience. • The learning experience has a time limit and/or deadline associated with the experience. • Learners actively engage in the learning experience and have autonomy on how to complete learning activities or which to choose. • The design elements, language, formatting, appearance, and functionality are used in a consistent form. • The design is simplified and sticks to basic principles of aesthetics. • Learning activities and/or progress control enhance the self-reflective skills of learners. • Feedback and control is part of the learning experience, not just summative. • Feedback is particularly useful for behavior that the learner can change. • The learning object strengthens visual relationships between concepts and beliefs.

Table 1. Evidence of Persuasive Learning Designs

Conclusion

We assume that some of these principles may be more prominent than others when it comes to develop persuasive learning designs, however, they are all considered important. Learners emphasized the effects of a flexible design approach and identified a need to encourage teachers and designers to use new media and differentiated learning scenarios for their teaching. It is particularly interesting, however, that the overall types of activities that the different pilot projects realised were quite similar, not least due to the same technologies (PLOTMaker and PLOTLearner) that were used for their development. Nevertheless, it can be assumed that the different sets of learning designs and/or learning objects that they had tested have been highly valuable for their learning as well as motivational throughout their learning experience. The strategy of persuasive learning designers should be to attempt to achieve encouragement and commitment in learning based on strategies as have been suggested above, as well as to allow for sufficient time during the learning experience that the attempted persuasive strength of their learning objects has a chance to develop.

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