Designing a web-based interactive eHealth literacy tutorial

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Purpose Theory-based multimedia tutorials can outperform paper-based tutorials by reducing cognitive load[1], especially for older adults[2]. However, paper-based tutorials must be adapted for interactive multimedia environments before these learning benefits can be achieved. Using Adobe® Captivate® eLearning development software and Xrtanormal Desktop animation design software to create cartoons, we designed an interactive, web-based, multimedia tutorial as part of the NIH-funded Electronic Health Information for Lifelong Learners (eHiLL) intervention (*Figures 1 & 2*). This tutorial was developed through an iterative design process from March to September 2013. The content was based on a non-interactive, instructor-led eHealth literacy curriculum with nine lessons, developed by the National Institute on Aging of the National Institutes of Health. For each lesson, we first outlined the content and created a script, and then two research team members developed a draft of the tutorial. Next, three different research team members reviewed the draft and suggested revisions. After implementing these revisions, we pilot tested the tutorial with older adults to solicit feedback. These steps were repeated multiple times until a final version was produced. We report here on participants' perception of our interactive multimedia tutorial. **Method** Semi-structured interviews were conducted with 21 older adults who had recently completed our eHiLL intervention. **Results** Participants perceived: (i) that self-pacing promoted learning in classes with different levels of computer experience; (ii) that interactive practice and review activities reduced fears about making mistakes; and, (iii) strong desire for additional practice activities. **Discussion** These results are consistent with design principals based on the multimedia theory of cognitive learning. First, the self-pacing principle indicates deeper learning occurs when learners control a tutorial's pace[3]. Second, the practice principle suggests explanatory feedback with practice activities can increase learners' self-efficacy[4]. Third, the practice principle recommends including additional practice activities for novice learners[4]. A systematic experiment on the tutorial is underway, with quantitative data to be reported in the near future.

References

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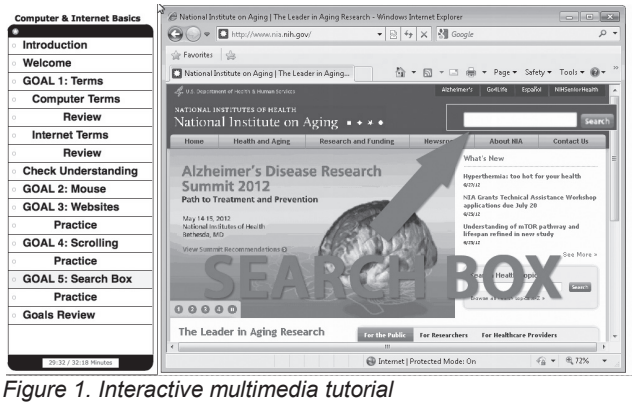

Figure 1. Interactive multimedia tutorial

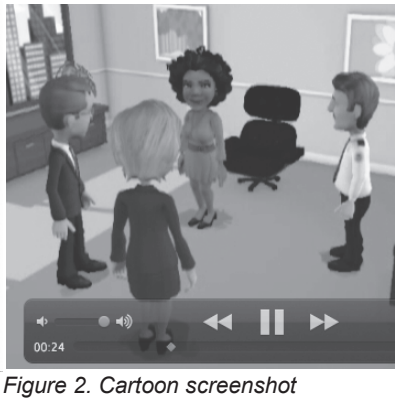

Figure 2. Cartoon screenshot