A. Sterns, H. Sterns, R. Sterns. Human factors design of a group activity for people with dementia. Gerontechnology 2008; 7(2):213. The Memory Magic™ Program provides an example for expanding beyond the activities available today[1]. This model provides a challenge to activity professionals and researchers to extend new concepts to group settings. As more activities are available and adopted in care settings, such considerations go a long way to helping match caregiver demand requirements with staffing[2]. Memory Magic™ was developed as a group activity for persons with dementia. Using Montessori principles and human factors research, we designed the activity to successfully engage individuals with varying levels of cognitive and physical ability. The design process began with testing of a number of design parameters to determine which design structure was most ergonomically sound and would best accommodate visual and perceptual deficits common to aging and dementia. As a result of the pilot testing, a prototype design for the activity was developed and 15 models were constructed. The models were then tested in long term care, adult day care, and assisted living settings. Results indicate that Memory Magic™ elicited more positive engagement, improved affect, and a reduction of negative behaviours in 24 participants. **Methods** Data were gathered from 24 participants over the course of two months. Of these 24 participants with dementia, 10 were in long-term care, 9 in adult day care, and 5 in assisted living. We wished to develop an outcome measure that would focus on aspects of participation in activities that were relevant to activities professionals and that would link to concepts important to researchers in dementia care as well. Therefore, the focus of the instrument involved whether persons with dementia refused to take part in activities, engaged in activities, and demonstrated various types of affect during activities. Initially, we had developed an outcome measure – The Menorah Park Engagement Scale (MPES) that would involve direct observation of participants while taking part in Memory Magic™ (Treatment) and in other regularly scheduled activities (Control).
Results and discussion In these analyses, all observations taken in treatment and control conditions are averaged for each participant to provide a single treatment (Memory Magic™) and control (regular programming) score. Initially, we analyzed MPES items using a 3 (Setting – Long Term Care, Adult Day Care, Assisted Living) x 2 (Treatment condition - Memory Magic™ versus regular activities programming) ANOVA. We were primarily interested in whether setting influenced outcomes in this first set of analyses. Main effects for Setting and/or for the Setting x Treatment interaction were found for three MPES items – Did the Activity (Constructive Engagement), Slept During the Activity, and Offered Help to Other Players. For 'Did the Activity', significant Setting effects were found, $F(2,21)=5.0$, $p< .02$, with players in long-term care showing less time engaged in activities than in the other settings. For "Slept," a significant interaction between Setting and Treatment was found, $F(2,21)=3.6$, $p< .04$. Players almost never slept during the treatment activity, but persons in long-term care and adult day care slept during control activities. For 'Offered Help to Other Players', a significant effect for Setting, $F(2,21)=4.0$, $p< .03$, and for the Setting x Treatment interaction, $F(2,21)=7.0$, $p< .005$, was found. Helping almost never occurred in long-term care (we worked on units with more advanced dementia. However, in a pilot study we observed helping behaviours on a special care unit for dementia among residents with early stage dementia). Helping behaviour was seen among adult day care participants, but only during Memory Magic™. In assisted living, helping behaviours were seen in both types of activities.

References

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Figure 1 Mock-ups of different approaches for an activity for persons with dementia