USE OF GAMES IN OCCUPATIONAL THERAPY

By Sheena Davis
“Occupational therapy is a holistic, patient-centered, occupation-based approach to life skill development.”

- Occupations - everything you do
- Various domains
- Physical and mental
  - Adaptation
  - Improvement
    - Upper body
Games can be used in the world of OT to improve effectiveness of interventions, make interventions more enjoyable for the patients, and make interventions easily implemented.
Virtual Rehabilitation

Nintendo Wii

- Burn patients
- Bowling, Tennis, Cooking Mama, GT Pro Series, and Big Brain Academy
- 63 OTs and PTs
- 59% agreed that it would be beneficial for burn patients
- 85% of burn therapists
- Recover motor deficits
- Functional movement
- Distraction from pain
- Can be used at home
Commercial gaming systems/games don’t allow for the adjustment of difficulty

Growing with Timocco
- Adjustable background and sounds
- Two-Player mode
- Both physical and cognitive exercises

Created to be used on a PC
- Can continue use at home

The Study
- Dyspraxic 5 year old child
- Improved motor skills
- Improved posture
Disabilities, such as Cerebral Palsy, can keep children from participating in “normal” play
“Secondary social, emotional, and psychological disabilities”
Lowered self-competence
Study on the effects of VR
- 19 children with CP; ages 8-13
- Mandala Gesture X-treme VR system (Vivid Group Inc.)
  “I mostly don’t win stuff mostly. So when I play up here I get a chance to.”
  “It is kinda like making a dream come alive”
  “Feelings of increased self-worth, confidence, and competence”
BEHAVIORAL CHANGES

- **Playful Toothbrush**
  - Motivate effective brushing
    - Web camera to capture brushing motion
    - Tooth brush extension with LED markers
    - LCD display of virtual uncleaned teeth
    - Teeth brushing game
BEHAVIORAL CHANGES CONT’D

- **Playful Tray**
  - Eliminate poor eating behaviors
  - Weight-sensitive tray
  - Racing or Fishing Game
PILOT STUDIES

 Playful Tray
  - Four children and their parents
    - 2 with Asperger Syndrome
    - 1 with high functioning Autism
    - 1 with no diagnosis
  - Increase in social behavior
  - 33% reduction in eating time
  - 20% reduction in time spent not eating

 Playful toothbrush
  - 13 children; ages 6 and 7
  - Cleanliness of teeth increased from 32% to 67%
  - Number of brush strokes increased from 190 to 248
IN CONCLUSION...

- The use of video games in OT is promising
- There are still flaws
- Studies still being conducted


