

# **Cognitive Technology and Cognitive Rehabilitation**

**Rick Parente Ph.D.  
Towson University**

# What are Prosthetics

**External Aids – Devices that obviate the memory or cognitive problem. They perform some form of thinking skill for the client.**

**Parente, R. and Anderson, J (1991). Retraining Memory: Techniques and Applications, Houston Tx: CSY Publishers.**

# Kinds of Memory Information

- Knowledge
- Events
- Intentions
- Locations
- Possessions

# Typical Prosthetic Devices

- Checklists of 3x5 cards
- Post-it notes
- Appointment calendars
- Pocket or purse notebook
- Personal information card
- Calculator
- Cell Phone
- Digital recorder
- Telememo watch
- PDA
- Spell checker – grammar checker
- Answering machine
- Beeping watch

# Prosthetic Devices

- **Colored key jackets**
  - Available at most lock-and-key stores
  - Cost about 25 cents each
  - Require paired-associates training
- **Car finders**
  - Come standard on most cars after 2000
  - Cost about \$50-\$100 to install on older cars
  - Requires little of no training

# Prosthetic Devices - continued

- **Sounding devices**
  - Available at specialty stores and on-line
  - Cost about \$20
  - Little or no training required
- **Checklists**
  - Made with paper and word processor
  - No cost
  - Little or no training

# Prosthetic Devices - continued

- **Cuing watches – Telememo watches – Timex/Microsoft watch.**
  - Available from [Timex.com/data](http://Timex.com/data) link
  - Cost about \$30-\$70
  - Require considerable setup but little training
  - Considerations – get one that is waterproof and with a metal or fabric band so the person never has to take it off. It should also be set to beep on the hour to establish a time sense. Fewer models specifically for women.

# Appointment Calendars

- Available at most office supply stores
- Cost less than \$20 or can be made
- Little training necessary
- Considerations – The Dayrunner or Daytimer CDs can be used to construct appointment calendars
  - choose a style that has half hour increments and blanked lined paper
  - 8 x 10 is the best size
  - Train client to schedule the day the night before and to write a diary entry at the end of each day.
  - Save the calendar at the end of each year and replace with new sheets

# Stick-On Notepads

- Available at office supply stores
- Cost less than \$1
- Little training required
- Considerations – Affix to anything or anyplace where the person needs a reminder. Especially useful for temporary reminders.

# Recorders

- Available at office supply stores
- Cost \$20-\$50
- Little training time
- Considerations – Digital recorders better for short-term message recording. They should have fewer rather than more features and the most available digital time. Tape recorders are better for students taping classes.

# Electronic Mini-Computers

- Calculators – Usually built into other devices
- Electronic checkbooks
- PDA – e.g., Palm Pilot – Windows CE
- Cell phones
- Multi-function phones
- GPS systems

# PDA's

- **Window CE**
  - **Familiar operating system**
  - **Crashes frequently**
  - **Less available software**
  - **Cameras and web access available**
- **Palm**
  - **Largest amount of available software**
  - **Seldom crashes**
  - **Easy to use**
  - **Cameras and web access available**

# Cell Phones

- **Generally available**
- **Multi-function tools**
- **Cost as little as \$15 (Virgin)**
- **Considerations – should have a recorder, camera, and phone book and text messaging feature.**

# Orthotics

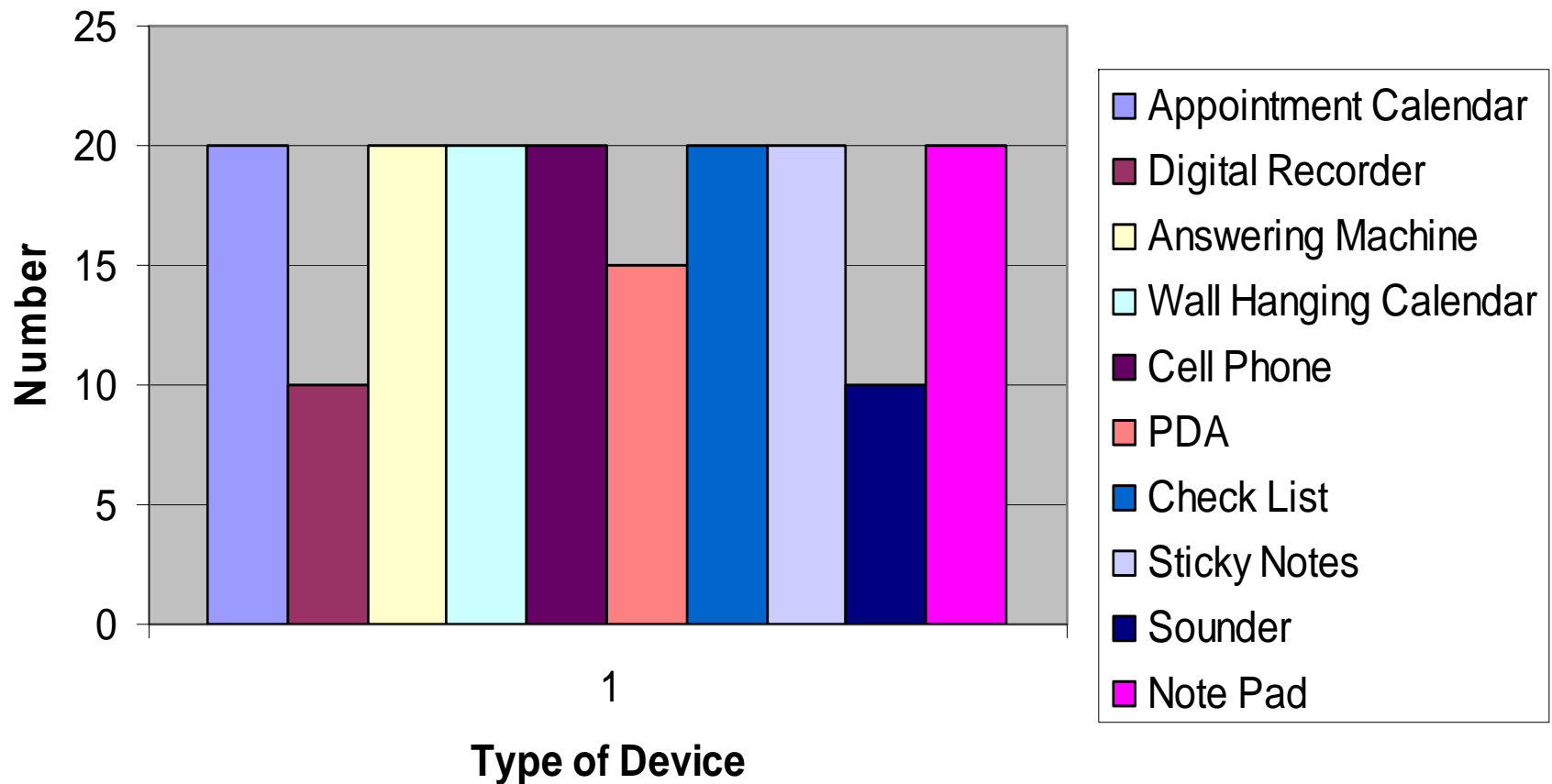
- **Spelling and grammar checkers**
- **Cognitive robots**
- **Expert system shells**
- **Micro-computers**

# Long-Term Retention

- **Scrapbooks**
- **Video libraries**
- **Collages**

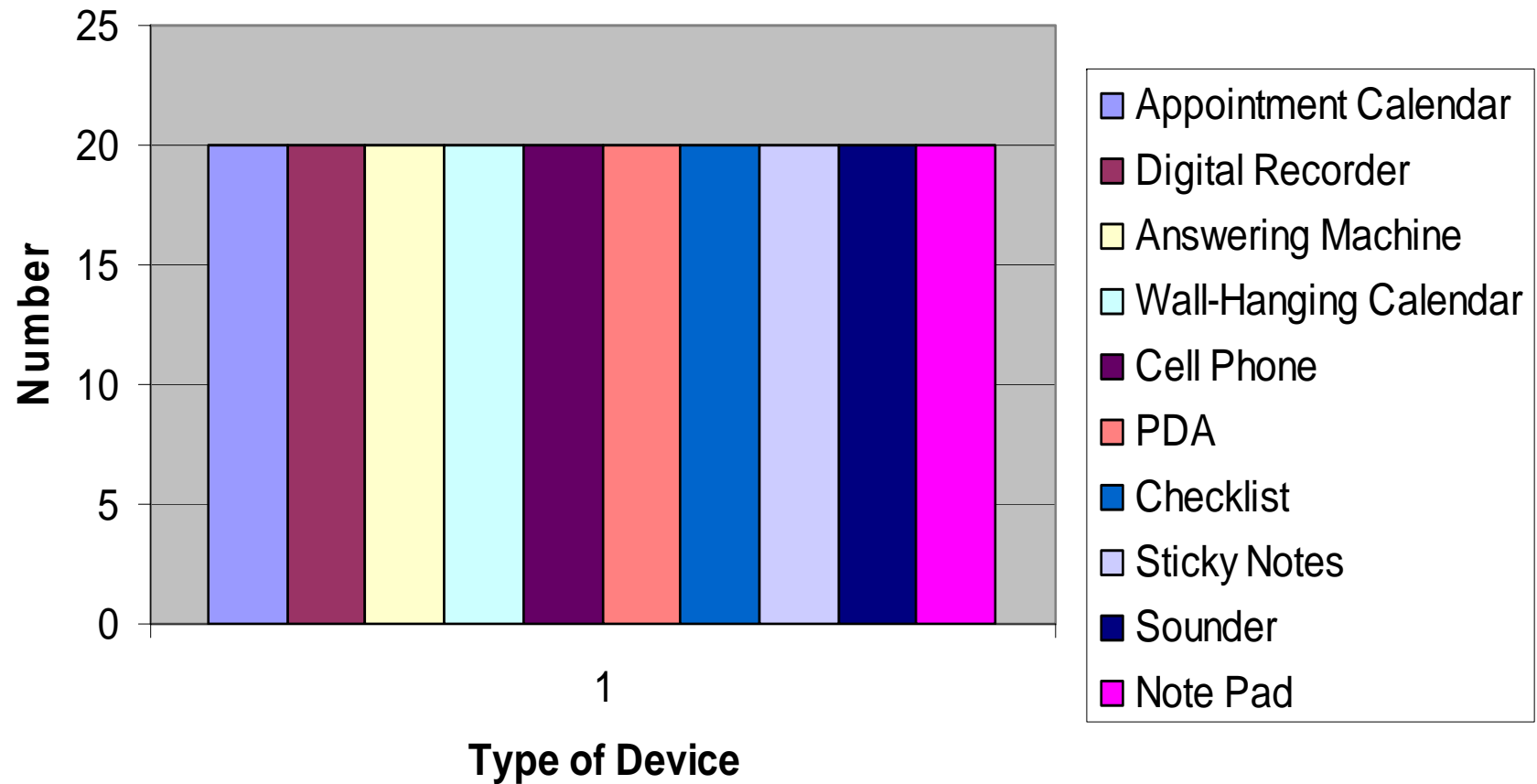
# Usefulness of Prosthetic Devices

Number of people who are aware device exists



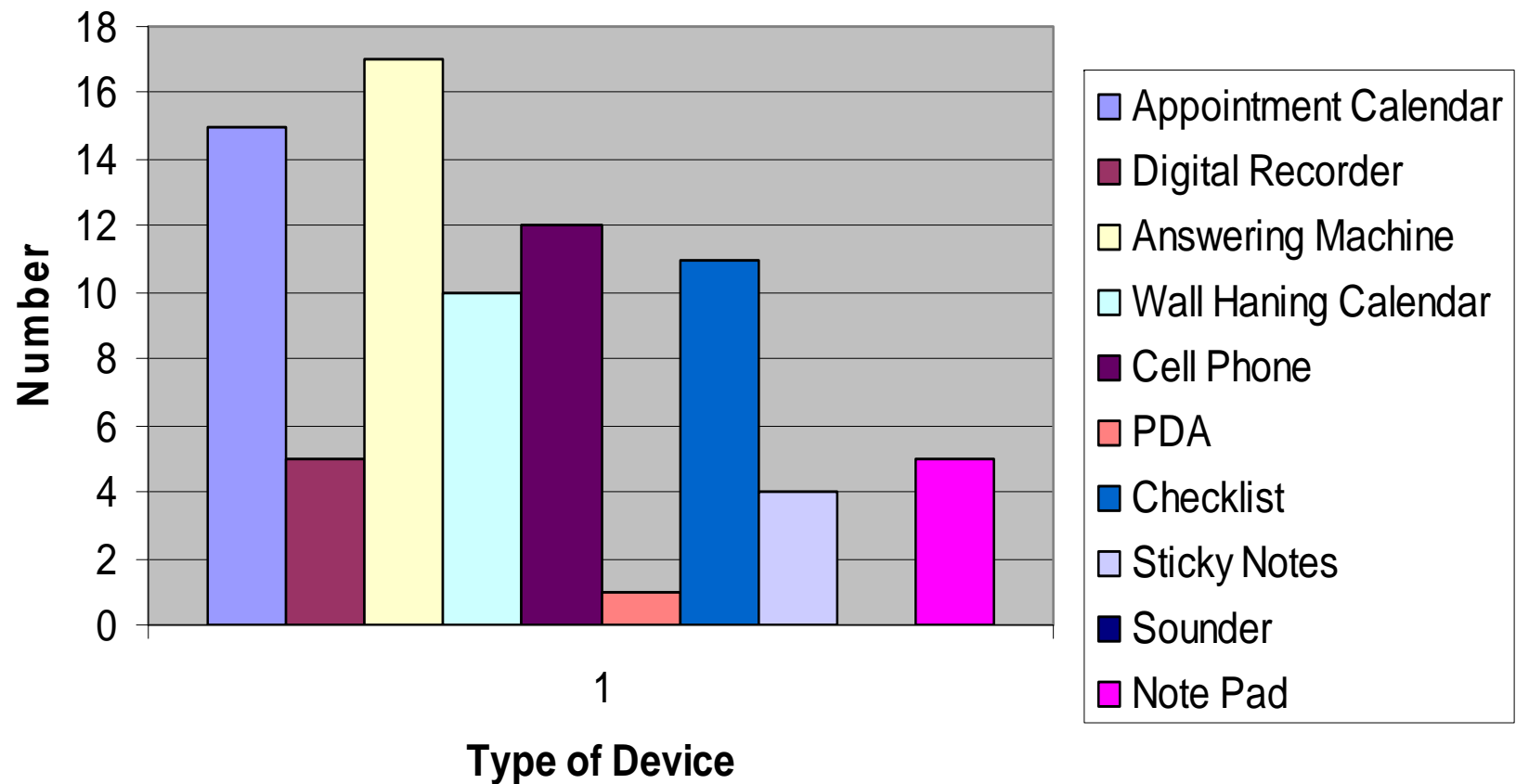
# Number Who Feel the Device is Useful

## Number of People Who Feel the Device is Useful



# Number Who Use the Device

Number Who Use the Device



# Conclusions

- **Low Tech Devices generally preferred over High Tech devices**
- **Clients generally aware of most devices**
- **Less than half of clients use devices**