

Checking the Retention of Skills Taught in a One to One Setting

Jill E. Hunt, M.S.Ed., BCBA, Michelle I. Harrington, M.Ed.

Over the past seven years, our developmentally delayed clients have received extensive one to one instruction in the Activities of Daily Living. These skills include Washing Hands, Brushing Teeth, Buttoning, Unbuttoning, Zipping, Unzipping, Toileting and many others. These skills were taught in a variety of settings (classroom, one to one room, residence), by several different staff. Multiple rewards were used. Teaching methodologies included forward and backwards chains. Data was collected daily on number of prompts needed, type of prompt needed and time needed to complete the skill. As a skill was mastered, the client did not receive daily one to one instruction in them. It was expected that these skills would be performed daily, as part of the clients' daily life. We will be revisiting several of these skills to see what skills were retained over the past seven years.

Method

Participants and Setting

For this study, we focused on eighteen clients who participated in and completed toilet training or completed daily livings skills in the 1-1 Room. Ages ranged from 8-35. Diagnosis included Autism, Developmental Delay, Down Syndrome, ADHD and Pervasive Developmental Disorder. Functioning levels ranged from 11 months to 18 months. All participants either attended school or worked in a sheltered workshop at the Judge Rotenberg Center and lived in one of JRC's group homes. All participants were non-verbal or had limited means of communication.

Participants spent their time in one of the toilet training rooms located in one of JRC's school buildings. One toilet training room was comprised of 6 large bathroom stalls, a sink, refrigerator, long tables, a computer work station and a reward area with a television and comfortable chairs. Each participant was assigned a stall, and a seat at the long table. Their seat was assigned so that they would be no more than 8 feet from their designated bathroom stall. Other participants spent their time in a room located in close proximity to a bathroom, which they were able to get to very quickly. When not sitting on the toilet, participants worked on daily living skills, such as buttoning, unbuttoning, zipping, unzipping, hand washing, brushing teeth, shoe tying and computerized academic tasks.

As participants completed toilet training, they would return to their regular classroom or sheltered workshop. In the classroom or workshop they would have to continue with these skills but not in a 1-1 training program. We are

looking to see if they were able to retain these skills without the continuation of an intensive training program.

Measures and Instruction

For toilet training, any voids off of the toilet were recorded. All data was plotted on a standard celeration chart. For this study, we looked at eighteen clients who completed toilet training. This means they were able to go several weeks without any voids outside of the toilet, both in the school or workshop setting and in the residential setting. Not all participants reliably requested the toilet, but they were able to be taken to the toilet hourly or every two hours and still avoid any toileting accidents. They did not wear a diaper at any time. The amount of time it took participants to complete toilet training varied greatly, from several months, to several years. This also meant that the amount of time between completion of toilet training and current data collection ranged from 2,632 days and 90 days. For the purpose of this study we are looking at whether or not the participants reduced, maintained or increased their toileting accidents since leaving the toilet training program.

The second part of this study looked at activities of daily living skills, participants were taught using a variety of methods. All used a task analysis, which had each step of the skill broken down into small steps. Some participants completed the task using a backwards chain, while others used a forwards chain. Some participants used adaptive equipment, such as a buttoning vest, with oversized buttons, which would eventually be replaced with typically sized buttons. Depending on the participants' individual needs, they would work on the entire sequence of steps or focus on one isolated step. Skills were taught in many different locations, to include the toilet training room, the 1-1 Room, the classroom, school bathrooms and the residences.

Over the years, different types of data were tracked. This included number of steps completed, prompted steps, unprompted steps, physical prompts, verbal prompts, gestural prompts, correctly completed steps and incorrectly completed steps. Time to complete the task was always tracked. All data was plotted on a standard celeration chart. For the purpose of this study we looked at the first data point taken during the intensive training program and data at this current time. We looked to see if prompting levels remained the same, decreased or increased over time. We also looked at the amount of time he requires to complete each skill set.

Results

For toilet training, the median number of voids outside of the toilet for six months before starting toilet training or the first six months of toilet training (for cases where the client was admitted to the Center and went directly into toilet training) was 20.75. The median number of voids for the past six months (October 2014-

March 2015) was 4. For individual performance participant BW went from a median of 11 to a median of 5, GR a median of 8.5 to a median of 0. Participant HS went from a median of 30 to a median of 3, AG a median of 10.5 to a median 1, TV a median of 18.5 to a median 0. Participant AGG a median of 7.5 to a median of 0, AT a median of 15.5 to a median of 12, RF a median of 57 to a median of 20 and NM a median of 27 to a median of 2. This is shown in Exhibit 1. In Exhibit 2, participant DJ went from a median of 21.5 to a median of 1, CJ a median of 51 to a median 2, KW went from a median of 2 to a median of 15, BS a median of 37 to a median of 5, participant AC from a median of 20 to a median of 6, CL from a median of 11 to a median of 0, MA from a median of 38.5 to a median of 31, BG from a median of 26 to a median of 6, and lastly NB a median of 30 to a median of 18 per week.

Exhibit 3 shows several different skills, unbuttoning, tie shoes, brush teeth and zip. GR went from needing eight prompts and sixty seconds to button five large buttons, to needing no prompts and forty-five seconds to button five medium sized buttons. AG went from needing four prompts and sixty seconds to button five large buttons, to needing twenty prompts and 226 seconds to button five large buttons. BW went from needing seventeen prompts and 195 seconds to button five large buttons, to needing no prompts and three seconds to button five large buttons. GR went from needing two prompts and sixty seconds to unbutton five large buttons, to needing one prompt and ninety one seconds to unbutton five medium sized buttons. AG went from needing twelve prompts and sixty seconds to unbutton five large buttons, to needing twenty prompts and 110 seconds to unbutton five medium sized buttons. HS went from needing eleven physical prompts, fourteen verbal prompts, zero gestural prompts and 41 seconds to tie the laces on an oversized shoe, to needing two physical prompts, two verbal prompts, two gestural prompts and 120 seconds to tie the laces on a shoe that he was wearing on his foot. GR went from needing twelve physical prompts, nine verbal prompts, zero gestural prompts and thirty two seconds to tie the laces on an oversized shoe, to needing nine physical prompts, nine verbal prompts, nine gestural prompts and 185 seconds to tie the laces on a shoe that she was wearing on her foot. TV went from needing two physical, seven verbal, eleven gestural prompts and 322 seconds to brush his teeth to needing one physical, two verbal, eight gestural prompts and 241 seconds to brush his teeth. BW went from needing sixteen physical, seventeen verbal, sixteen gestural prompts and 247 seconds to brush his teeth to needing thirteen physical, thirteen verbal, eighteen gestural prompts and 424 seconds to brush his teeth.

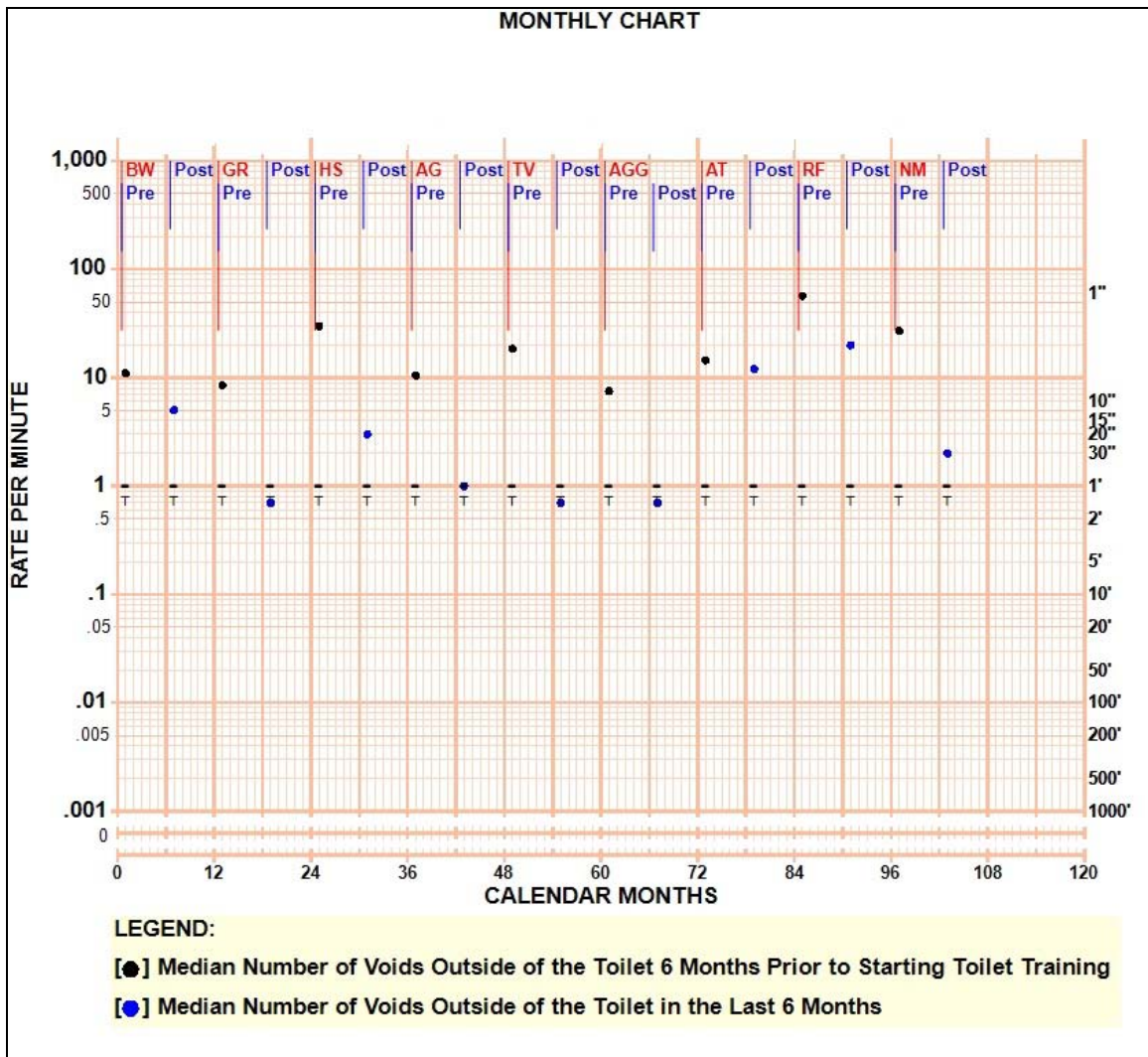


Exhibit 1

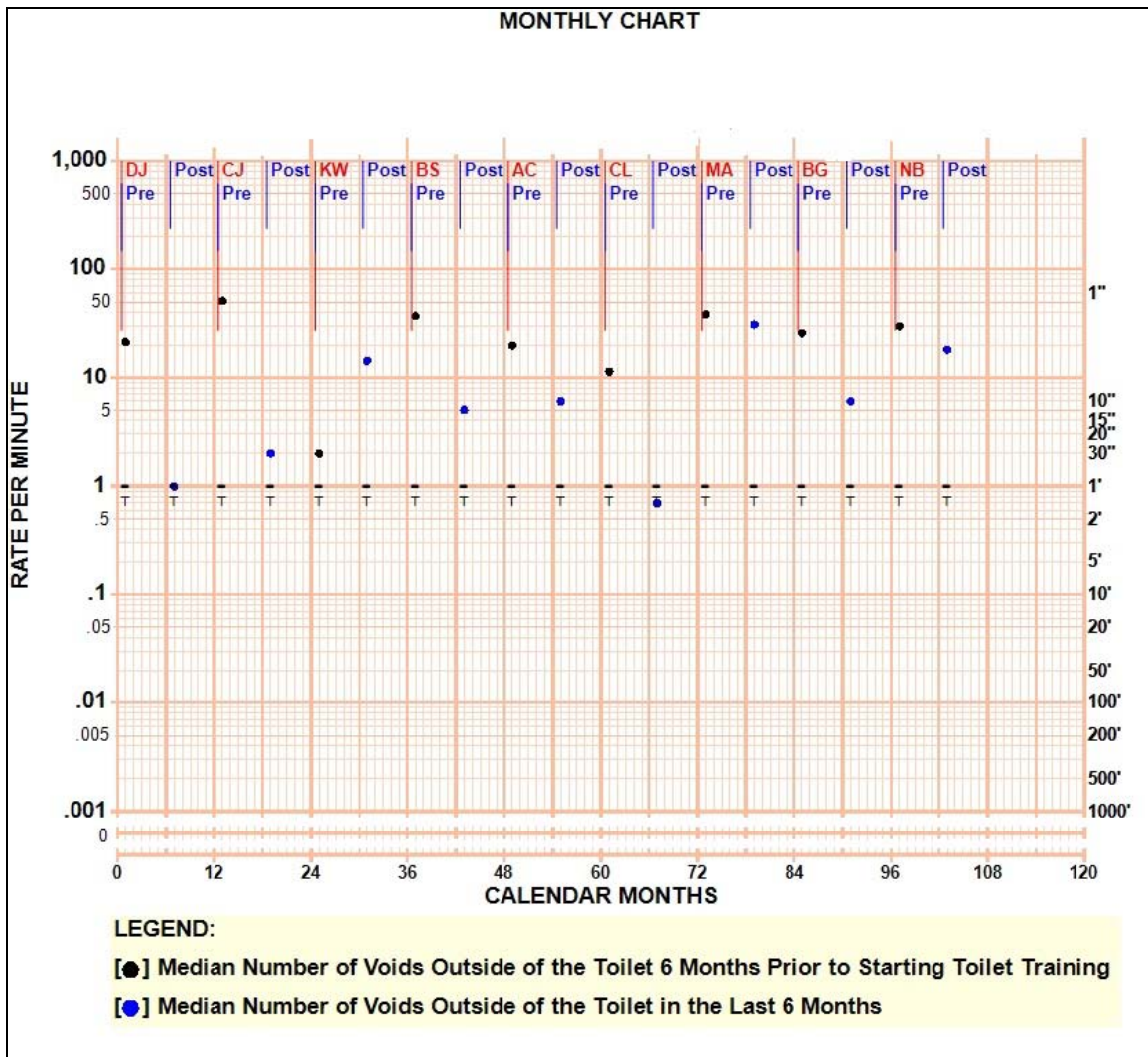


Exhibit 2

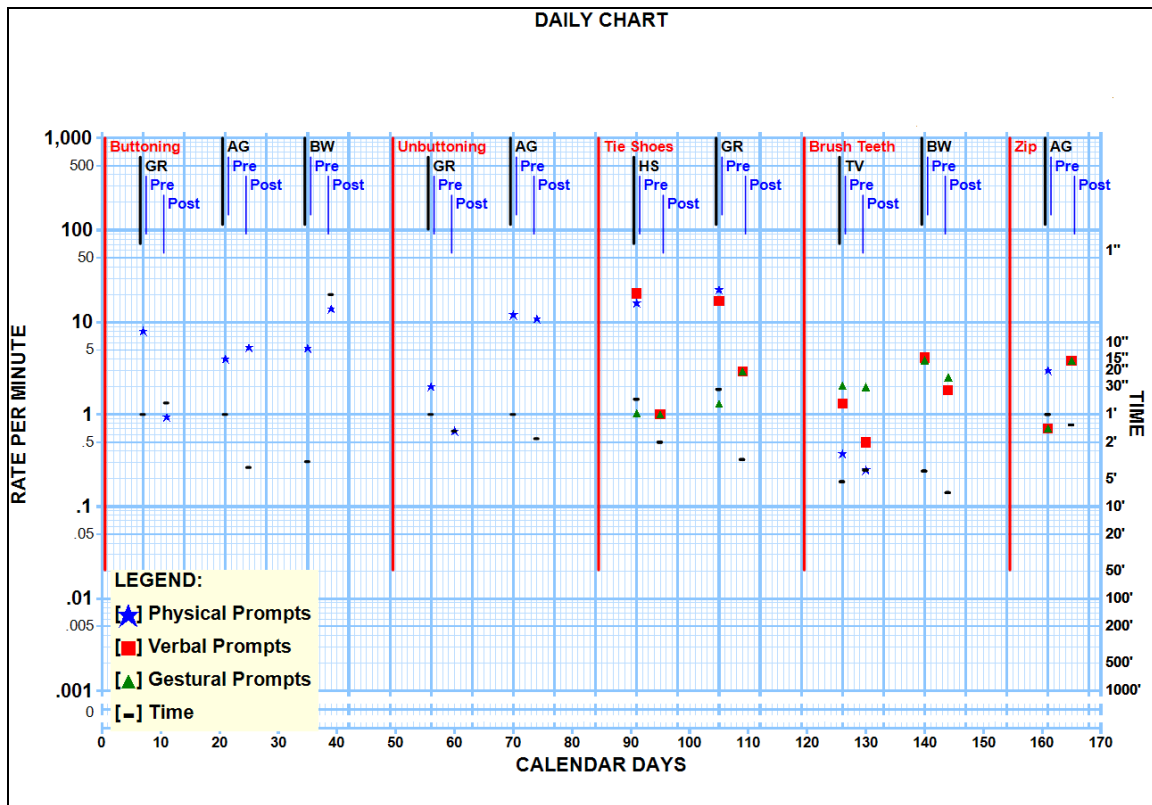


Exhibit 3

Discussion

This study has shown us that many of the activities of daily living that were taught to the clients were retained over several years for the majority of the students. There were a few clients who did not retain the skills, but in most cases, the issue was behavioral. We would continue to work on these skills with the clients, but if they are exhibiting dangerous behaviors, reduction of those behaviors is their main focus, instead of toilet training or activities of daily living. Through this information we have also worked to put into place some additional opportunities to keep data more frequently for those students that were taught these skills. This will allow for more opportunities to evaluate and re-teach or prompt a skill when needed which will allow for better retention. Lastly, we do not feel as though some of the data for BW is accurate as we have seen him perform these skills through time with significantly less prompts than noted here.

Toileting skills appeared to have been retained over the other skills reported on. This could be because toileting is a skill that is performed several times a day, no matter what the setting or staffing. Things like zipping, buttoning, tying shoes are all dependant on what clothing the client is wearing and if the staff who is working with them is aware that they are able to complete certain skills. Brushing teeth is a skill that many clients are resistant to work on and is difficult to quantify if the skill is ever really mastered. Although we can break the skill into steps and

teach each step, what is important in the end is the client's oral health, as reported by the dentist. We have specially trained two staff that only work on skills such as this. They then work with the students or clients as well as train staff on what to do and how to maintain these skills. All of these participants will have the opportunity to go through a refresher with these two staff. They will then have programs put into place within their classrooms, workshops and residences that will allow for continuous data and interventions when needed.