

BACKGROUND

The Maker Movement (“Do It Yourself” Culture) is project based learning that is *meaningful* and *occupational* in nature.

Video Modeling (VM) is an Evidence Based Practice for Autism Spectrum Disorder (ASD)
(Cox & AFIRM Team, 2018)

- Capitalizes on strengths as visual learners.
- Teaches occupations including independent living and vocational skills.
- What’s missing in the VM / ASD research?
 - Examination of the lived experience from the perspective of those with ASD.
 - VM for complex maker tasks.

RESEARCH QUESTIONS

- What is the participant’s lived experience using VM?
- How does VM impact performance in maker tasks?

MIXED METHODS

Quantitative- Single Subject

- Task analysis (118 discrete steps) for wooden box using ShopBot®
 - Steps categorized into performance skills based on OTPF (see chart).
 - Mean category scores over 4 trials.
- All trials video recorded. Two researchers scored data to 100% consensus.

Qualitative

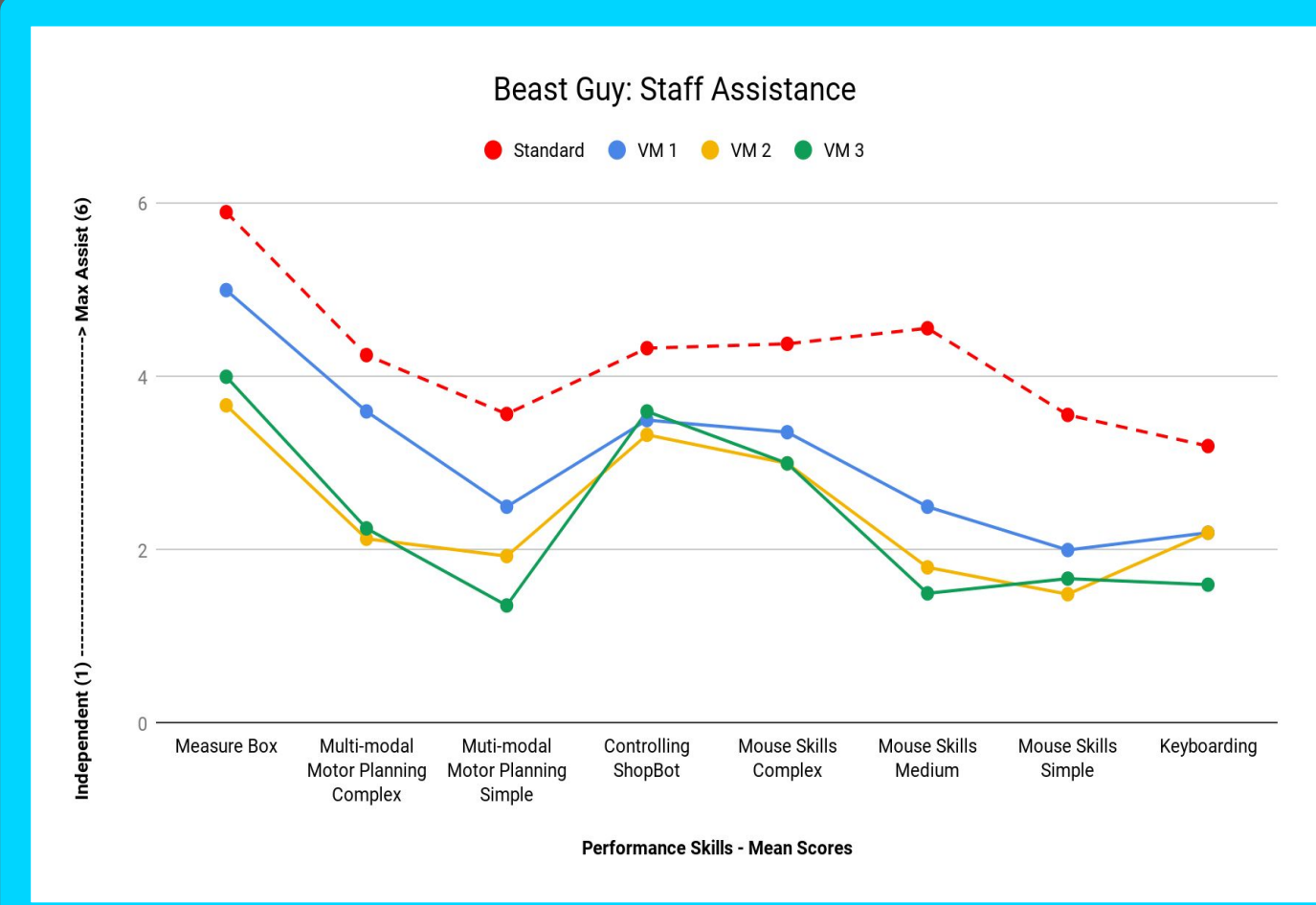
- Semi-structured interviews (staff & clients).
- Audio transcribed verbatim. Content coding via constant comparison method on Dedoose (Strauss & Corbin, 1990).
- All data coded to 100 % consensus X 4 researchers.

SELECTED REFERENCES

- Abbeduto, L., Hess, L.G., Wilbarger, J., & McDuffie, A. (2018). Language, Communication, and Occupational Therapy Interventions. In E. Hollander, R. Hagerman & D. Fein (Eds.), Autism Spectrum Disorders. Washington, DC: American Psychiatric Association Publishing, 277-295.
- Cox, A., & AFIRM Team. (2018). *Video modeling*. Chapel Hill, NC: National Professional Development Center on Autism Spectrum Disorder, FPG Child Development Center, University of North Carolina. Retrieved from <http://afirm.fpg.unc.edu/video-modeling>
- Dedoose Version 8.0.35, web application for managing, analyzing, and presenting qualitative and mixed method research data (2018). Los Angeles, CA: SocioCultural Research Consultants, LLC www.dedoose.com.
- Hess, L.G. & Chitwood, K.L. (2018). Using Technology Tools and Strategies to Increase Participation. In S. Spitzer and R. Watling (Eds.), Autism, 4th edition. Bethesda, MD: AOTA Press, 519-545.
- Occupational therapy practice framework: Domain & process, 3rd Edition (2014). *American Journal of Occupational Therapy*, S1–S48.
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RESULTS

Staff Assistance

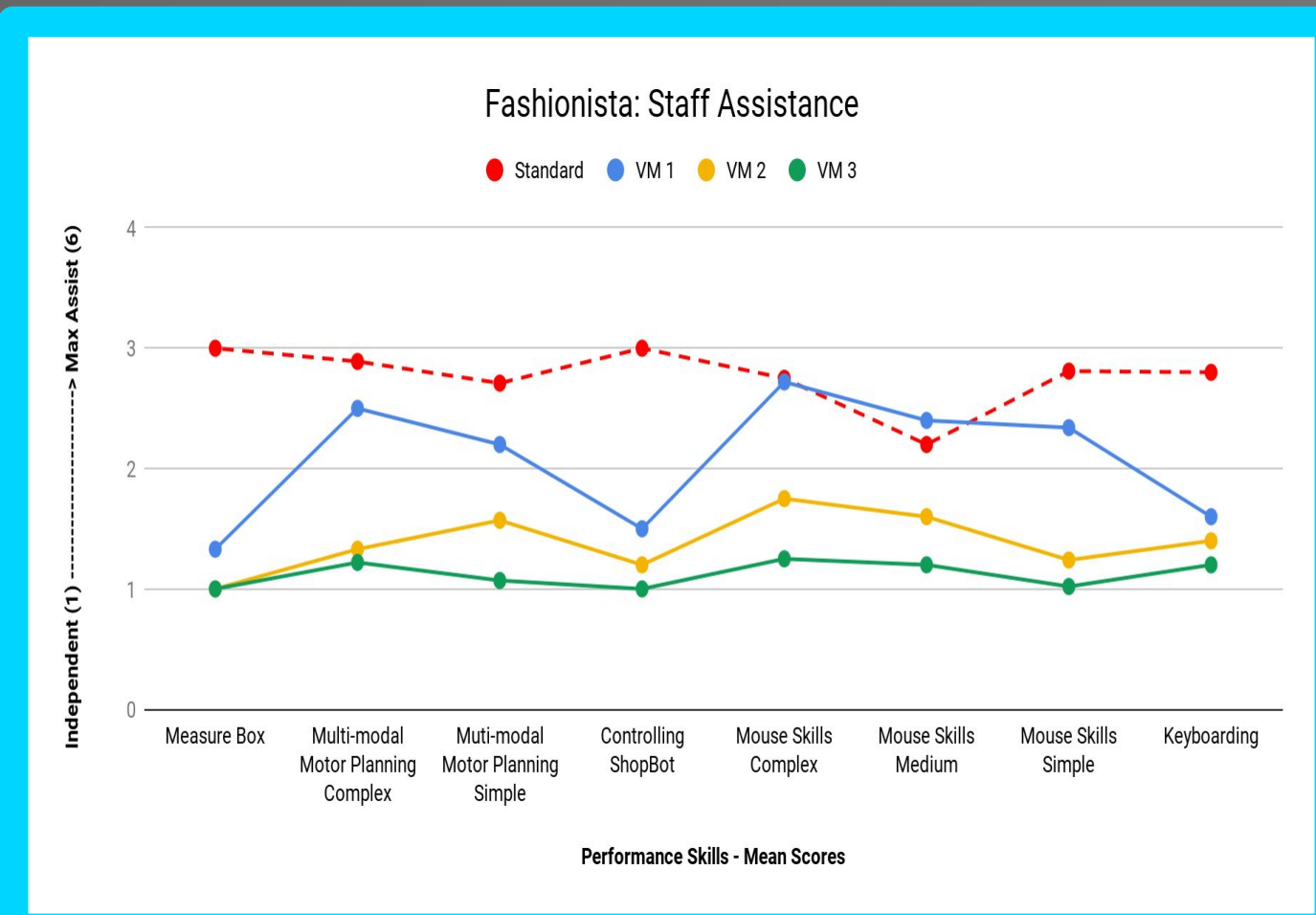
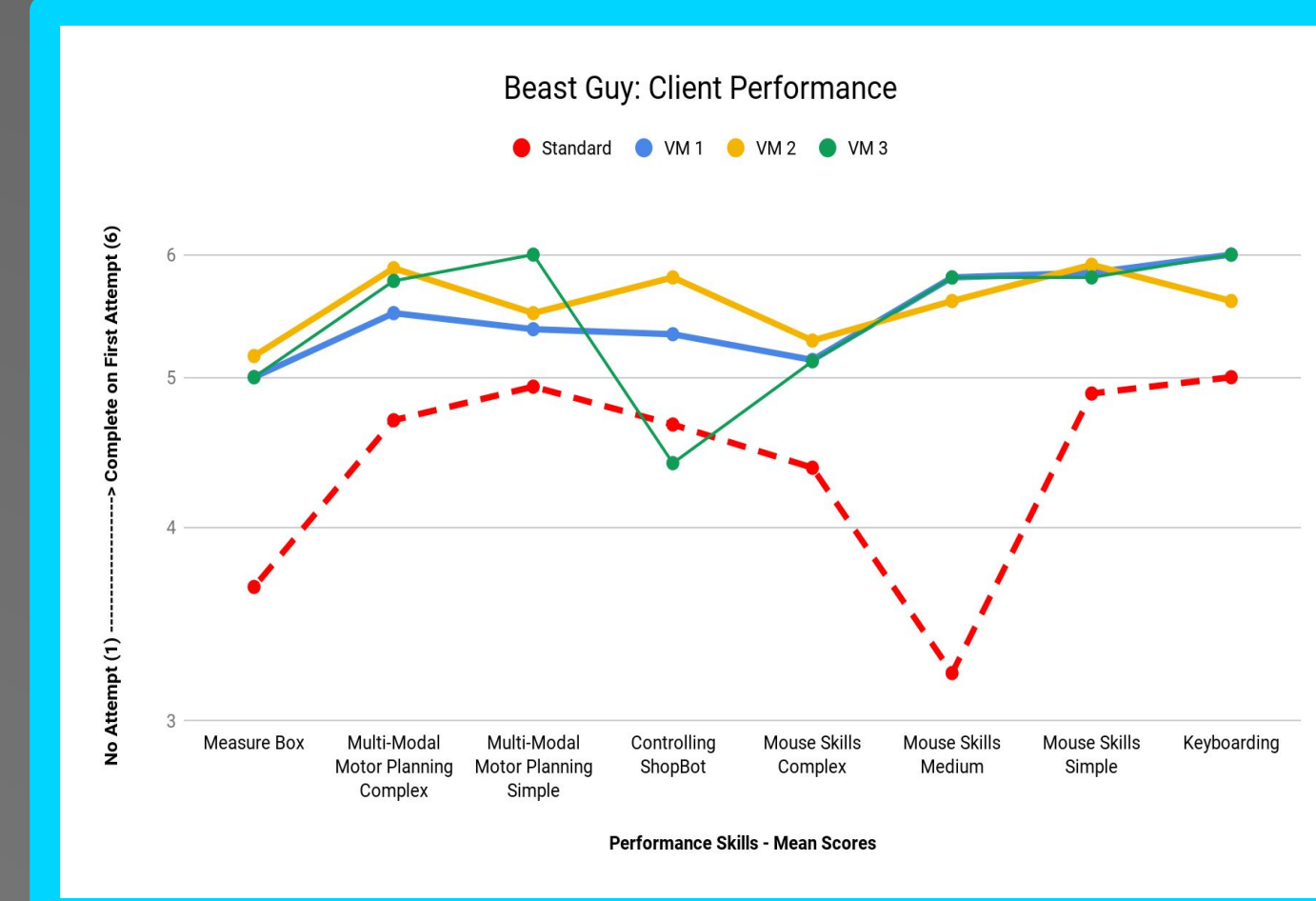


Beast Guy
M: 37 years old

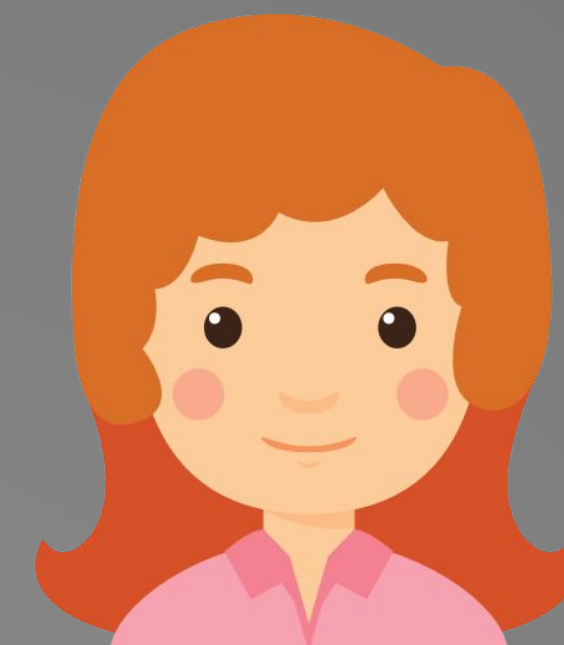


It helped me understand things because it broke down certain parts. I think video is helpful with a lot of things because you can actually see what’s going on besides just hearing. It makes things a lot easier.

Client Performance



Fashionista
F: 28 years old

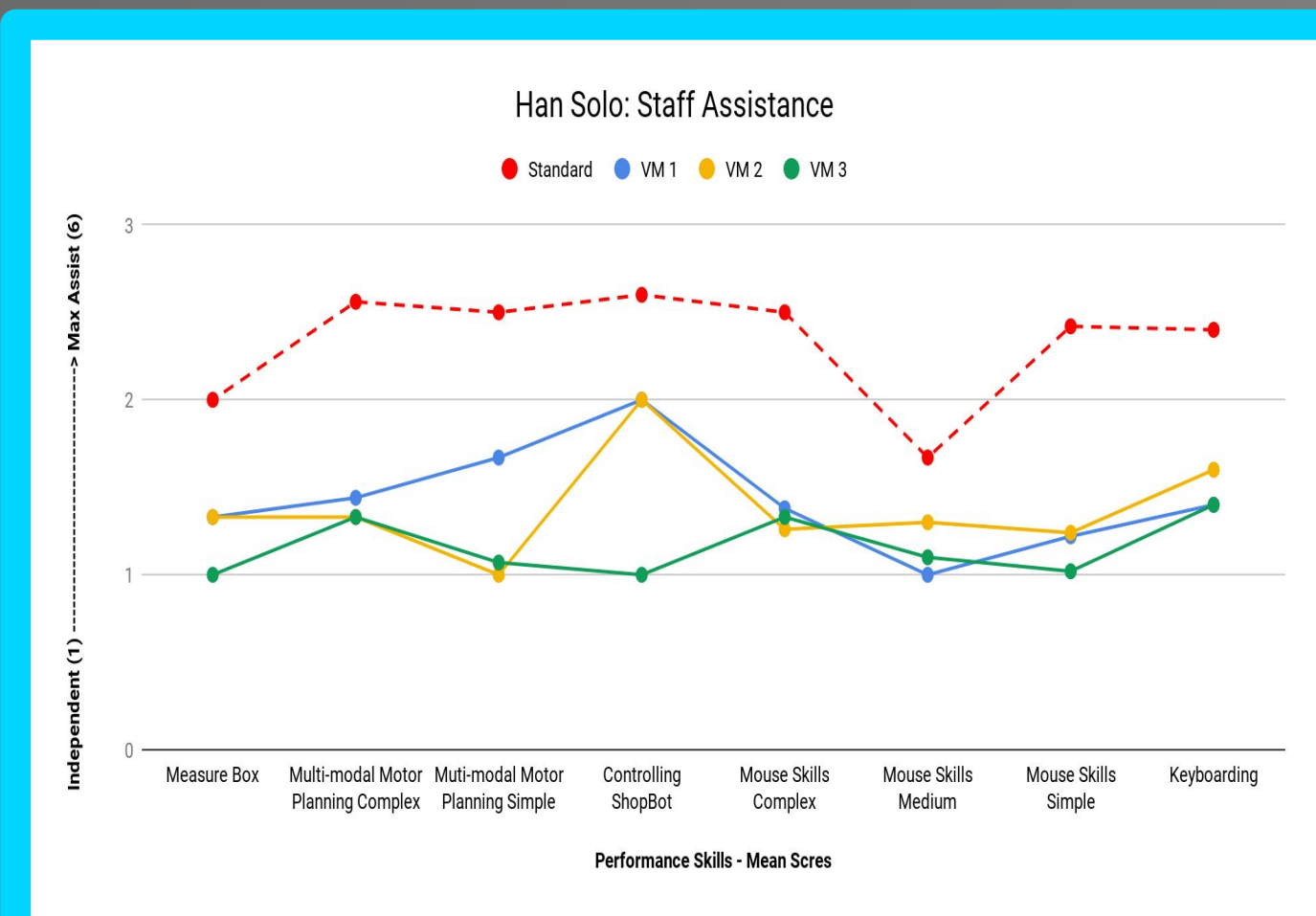
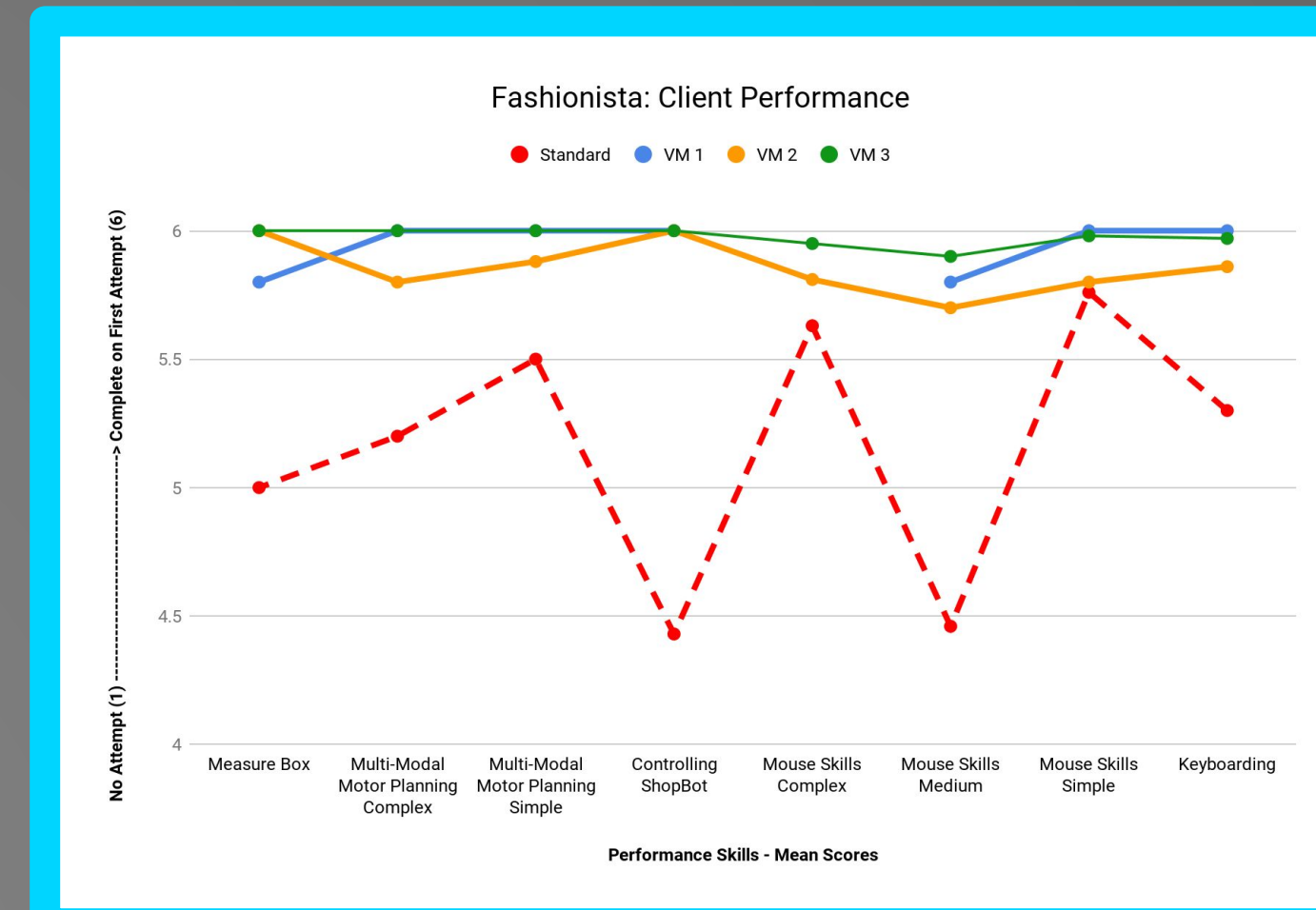


Q: What did you like about the ShopBot® videos?

A: Oh! It was great!

Q: How did you feel about the speed?

A: Too fast, kinda.

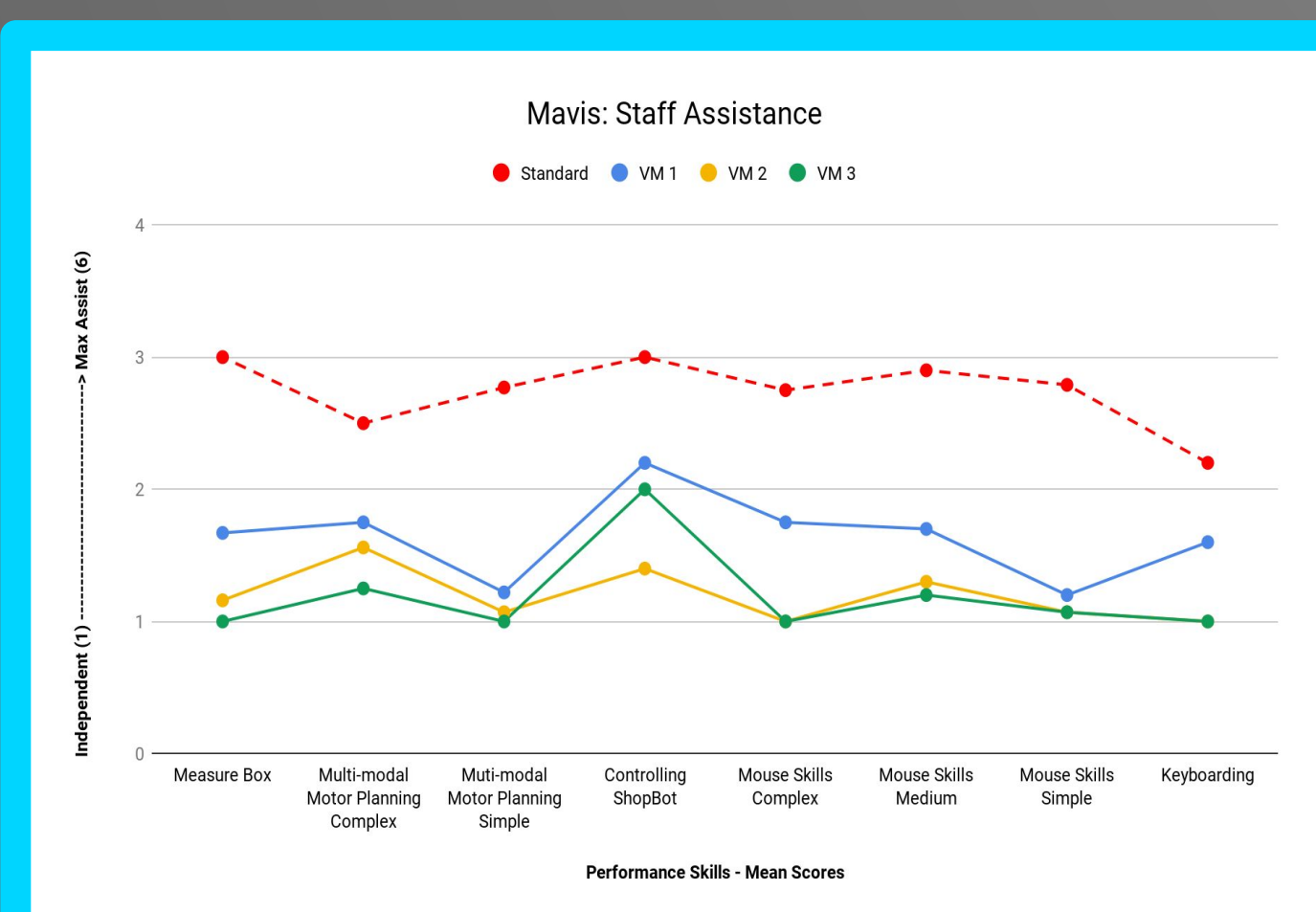


Han Solo
M: 22 years old



Q: Was it easier to use the ShopBot® with or without the video?

A: With the video.

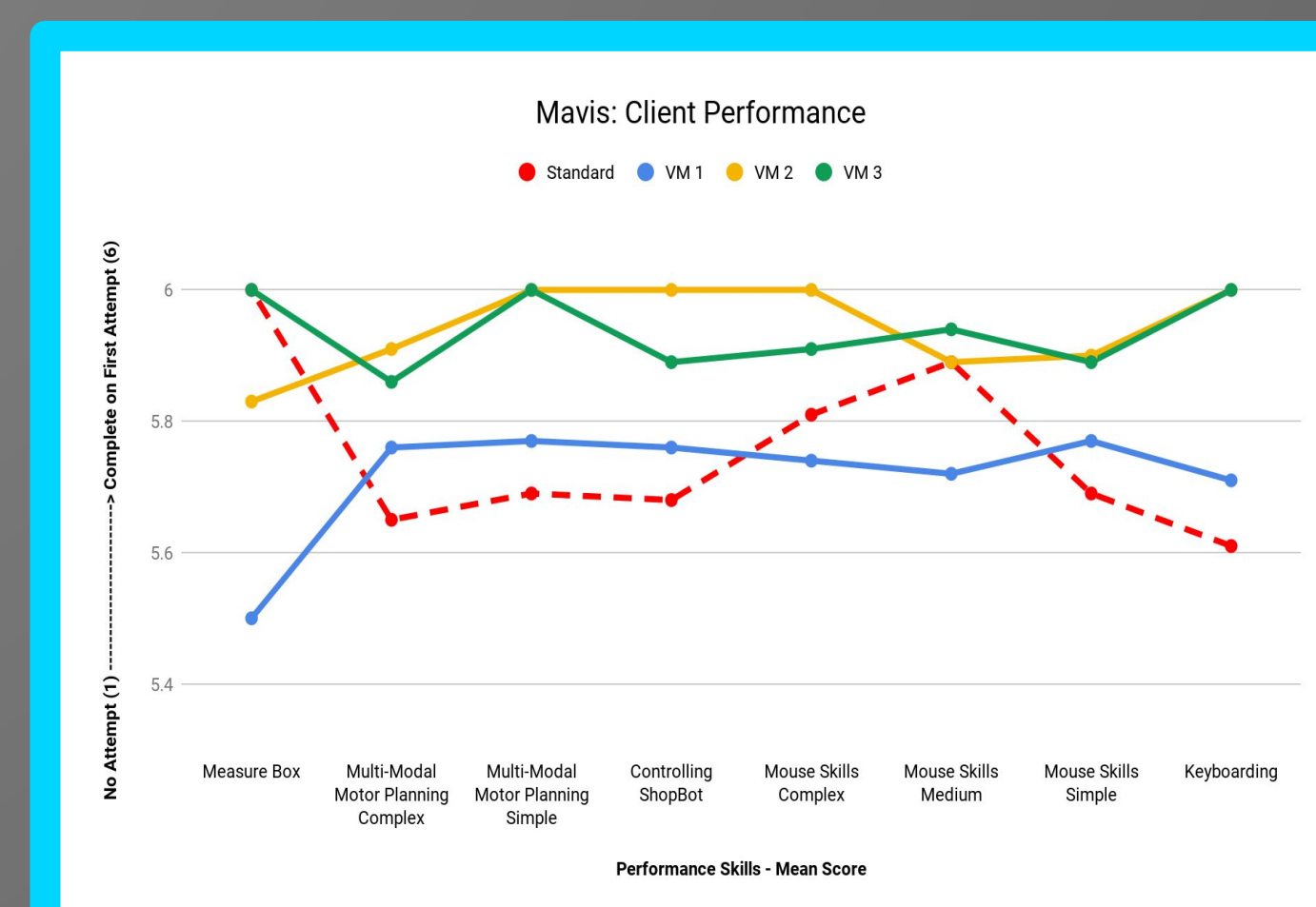


Mavis
M: 22 years old



Q: How did you feel about using the videos?

A: Well it did help, it taught me how to use a ShopBot®.



ShopBot® Performance Skills (# of skills)	Measure Box (6)	Multi-modal motor planning (Complex) (9)	Multi-modal motor planning (Simple) (14)	Controlling ShopBot® (5)	Mouse skills (Complex = 4+ skills) (8)	Mouse skills (Medium = 3 skills) (10)	Mouse skills (Simple = <2 skills) (60)	Keyboarding (5)
OTPF	Aligns, position, manipulates, coordinates, handles, organizes, navigates	Manipulates, coordinates, calibrates, handles, initiates, terminates, organizes, navigates	Navigates	Initiates, terminates, calibrates	Calibrates	Calibrates	Calibrates	Calibrates
Pertinent Visual and Motor Skills	Bilateral integration	Bilateral integration	Visual perception	Fine motor, visual perception, visual motor integration	Fine motor, visual perception, visual motor integration, hand-eye coordination	Fine motor, visual perception, visual motor integration, hand-eye coordination	Fine motor, visual perception, visual motor integration, hand-eye coordination	Fine motor, hand-eye coordination

DISCUSSION

Staff Assistance and Client Performance

- Clients required less assistance and demonstrated increased performance across all tasks with VM compared to standard instruction.

Lived Experience

- Clients and staff found VM helpful for the ShopBot®. Suggested VM would benefit other Autistry and community activities.
- The ASD consumer’s voice (what works & suggestions for improvement) is important when considering individual differences, despite interviewing challenges.

Future Directions and Limitations

- Given only one standard instruction trial, we cannot conclude that all learning was solely VM related.
- Performance skill categories had disproportionate opportunities for practice (see chart).
- Future studies should include multiple baseline trials, longer VM intervention period, and larger sample.

IMPLICATIONS FOR OT

- OT can use VM intervention capitalizing on visual learning strengths, less adult support and less verbal instruction.
- OT intervention using VM can help adults with ASD learn new skills, support individual interests, and improve occupational engagement.
- Along with VM, OT service should account for individual learning needs, activity analysis, and ongoing modifications.
- OT using VM has important implications for vocational training and employment opportunities for ASD (Hess & Chitwood, 2018).

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