



SPED FURNITURE

Findings and Recommendations

HYPHN

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Overview

Purpose

The Portland Public Schools Special Education program is moving towards an inclusive model for special education where students with disabilities receive most of their instruction and services within general classrooms and within their neighborhood schools. This approach will bring more SPED students, instructors, and service providers into general classrooms, with potential capacity impacts. The inclusion model also presents an opportunity to reimagine SPED focus classrooms as a fluid, adaptable service vs. self-contained learning environments, allowing students and instructors more flexibility in where and how learning happens with less disruption for transition.

Goals and Design Criteria

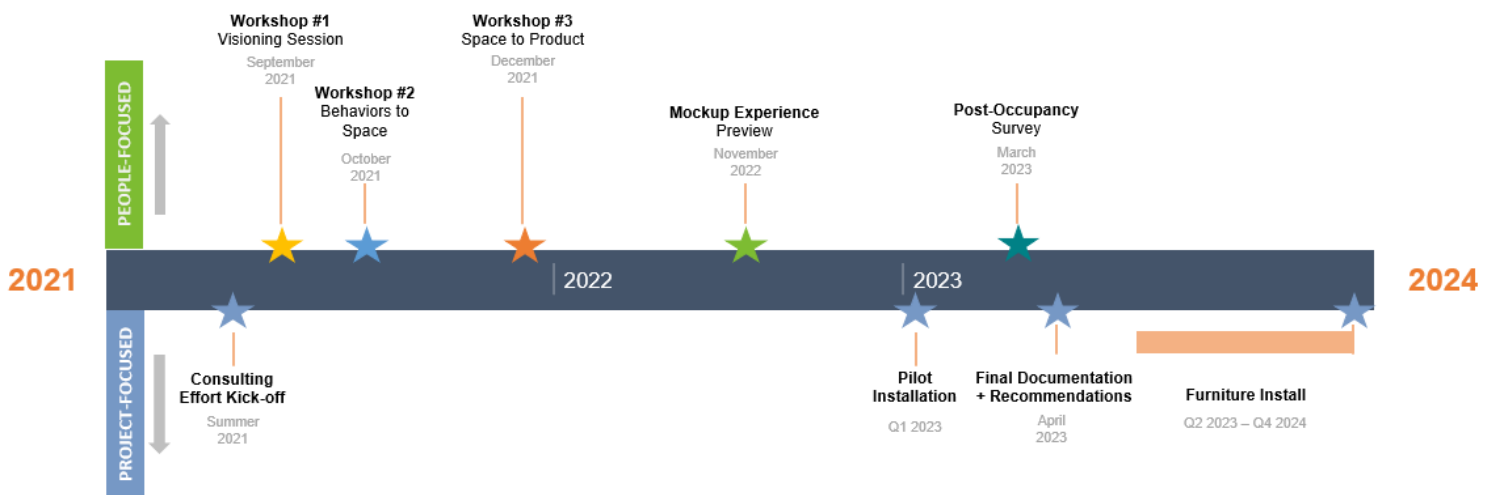
- Districtwide implementation of inclusivity model
- Support instruction of SPED students within their neighborhood schools
- Provide consistent, uninterrupted continuum of services to SPED students as they transition between elementary, middle, and high school programs.
- Accommodate the wide continuum of physician, social, cognitive and behavioral needs within the special education student population.
- Equip schools with flexible, nimble spaces that can respond to enrollment fluctuations and the changing needs of students.
- Provide a designated, safe, quiet space for students with disabilities to practice self-regulation skills
- Provide a dedicated sensory motor support room
- Design space solutions for:
 - Focus Classroom
 - Learning Resource Center
 - Sensory Motor Support Room

Approach

PPS engaged with Hyphn to approach the furniture solutions from a user-centered perspective. Through engaging with PPS SPED critical stakeholders, and finding alignment on the desired behaviors within the space, an environment that best supports current and future needs was designed. The desired behaviors were then translated to optimal space and product that best supports both the students and teachers. This product list was then modified to accommodate PPS existing furniture standards. The final product, including PPS standards, was then tested and measured through an extensive pilot in order to measure how well it supported the identified needs.

- Plan Phase - Summer 2021 - Plan for the engagement
- Define Phase - Winter 2021 - Understand Current State and Define Critical Success Factors
 - *Workshop #1 - Identify desired behaviors in an ideal workplace experience*
 - *Workshop #2 - Translate desired behaviors to space - accommodation vs assimilation.*
 - *Workshop #3 - Translate space to product*
- Engage Phase - Winter 2022 - Explore solutions for future state
 - *Pilot Evaluation - test and measure critical success factors for identified furniture solutions.*
 - *Physical and Occupational Therapists review - meet with PTs and OTs to ensure approach would be effective for students and teachers alike.*
- Implementation Phase - by others

Hyphn PPS SPED Engagement Timeline



Phase 1: Define

Workshops and Findings

Through the workshops we found that the furniture and space design needed to focus on enhancing flexibility for both the teachers and students, while also ensuring student privacy, minimal noise transmission, and visibility for teachers to be able to keep an eye on students. All of these elements curate an environment of psychological and physical safety for teachers and students that is still warm and welcoming for all.

- **Workshop #1: Desired Behaviors**

- Safe
- Warm+Welcoming
- Confident
- Belonging

- **Workshop #2: Behaviors to Space**

- Flexibility + Choice
- Stability
- Consistency
- Calming
- Secure

- **Workshop #3: Space to Product**

The design of these pilot classrooms centered around the Design Principles of 'Me + We' as well as 'Open + Enclosed.' 'Me + We' focuses on creating spaces that equally support small groups, large groups, & individuals. Open + Enclosed spaces are more focused on supporting 'Me' spaces with enclosed shielding, while keeping the 'We' spaces more open. The design approach was to provide distinct zones within each designated space for focus work, individual work, and group work.

It was important to provide visual privacy, as well as limit noise transmission, so that students had opportunities to work 1-on-1 with teachers in the same space as their peers.

PPS Classrooms and Standards

Once a list of recommended furniture was finalized, the Pilot Classrooms were identified and the proposed furniture layout was reconfigured to fit within the constraints and existing conditions of the six identified classrooms.

- Boise Eliot Humboldt Room 130 - ES Focus Option Pilot Classroom
- Boise Eliot Humboldt Room 206 - ES Learning Resource Center Pilot Classroom
- Atkinson Elementary Room 100 - ES Intensive Skills Pilot Classroom
- George Middle School Room 135 - MS Intensive Skills Pilot Classroom
- George Middle School Room 138 - MS & HS Learning Resource Center Pilot Classroom
- Marysville Room 137 - Sensory Classroom

Finally, the PPS standard furniture items were substituted where new product had been identified by Hyphn for the following:

- Teacher desks
- Teacher chairs
- Student chairs
- Student desks
- Whiteboards
- Mobile Storage Peds

Phase 2: Engage

Pilot Engagement and Feedback

The specified furniture package was installed by School Specialties and tested by teachers and students from January 27th, 2023 - March 24th, 2023. Teacher and student feedback was gathered through two surveys; one of which was available for the duration of the pilot and the second to capture their final takeaways. Critical success factors that were identified through Phase 1: Discovery were used to measure effectiveness of the pilot furniture. Worksheets were also provided to students in effort to get them engaged in the discussion and provide room for feedback. In each survey there were six responses from those with different roles that interacted in the selected classrooms.

Positive Feedback

Overall, the majority of furniture that was tested during the pilot was well-received. When asked how each furniture item impacted their classroom, survey participants responded “somewhat positively” or “positively” 87% of the time.

- The highest rated item was the Soft Rocker with five out of six survey participants rating it positively.
- Positive survey responses include but are not limited to:
 - *“The dry erase tables and flexible seating options as a whole have helped support student engagement. The rolling dividers have been very helpful when multiple small groups are working in the learning center at the same time. The visual dividers that roll up have also been extremely helpful to support student focus and engagement.”*
 - *“The students love multiple seating options and the whiteboard tables. Teachers love everything on wheels and able to reconfigure the classroom to meet the multiple uses the room has. It also allows us to use one space for multiple groups/functions at a time.”*
 - *“My students really enjoyed the campfire screen, Norvanivel rockers, and soft rockers. I loved that the campfire screen gives privacy but also allows the teachers to see through it for safety and I loved the versatility of the Norvanivel*

rockers. I liked the seat options like the stackable chairs and noodle chair however since I teach K-2 the chairs were way too big for the students and their feet did not touch the floor when at their desks.”

- *“This furniture was greatly needed in our CB classroom. Students are enjoying it and making good use of it.”*
- *“We are so excited that our classroom was chosen. Thank you.”*

Negative Feedback

- Flavors Stack Chair - one of six responses indicated that they were negatively impacted by this chair.
 - **While worth noting, it’s difficult to determine whether this negative sentiment would be consistent across a larger sample size.*
- Noodle Chair - one of six responses indicated that they were negatively impacted by this chair.
 - **While worth noting, it’s difficult to determine whether this negative sentiment would be consistent across a larger sample size.*
- Critiques of the pilot furniture items include:
 - *“All chairs needed foot rests for my shorter/smaller students, and all desks needed adjustment to the lowest setting and even that is too tall for some of my littler students.”*
 - *“The Smith Oodle Stool is a little tricky to put back together.”*
 - *“I was under the impression that they [Genga blocks] were going to be bolted to the floor. Since they aren’t, there is a lot of building and cleanup every time, but I think the kids enjoy that. I also think it presents some possible safety issues as they climb on tall towers of the genga blocks that could be unstable.”*

Survey 1 Results: Ongoing Pilot Evaluation

The Ongoing Pilot Feedback was open for teachers to provide feedback on the furniture from January 27th - March 10th. This survey provided the teachers a space to provide their feedback on each pilot item they interacted with based on the following categories: Flexibility, Efficiency, Adjustability, Ease of Use, Privacy, and Minimizing Noise Transmission.

Ongoing Pilot Evaluation Feedback: January 27, 2023 - March 10, 2023							
On a scale of 1 to 5, how would you rate your satisfaction with the pilot furniture in regards to the following categories?							
(Scores were averaged between all responses where applicable)							
	Furniture Item	Flexibility	Efficiency	Adjustability	Ease of Use	Privacy	Minimizing Noise Transmission
1	Campfire Screen	N/A	N/A	N/A	N/A	N/A	N/A
2	Smith System Flowform Ottoman	N/A	N/A	N/A	N/A	N/A	N/A
3	NorvaNivel Hex seating	N/A	N/A	N/A	N/A	N/A	N/A
4	Oodle Stool	3.6	3.8	3.2	4	3	3.7
5	NorvaNivel Rocker Ott Stool	5	5	4	5	N/A	5
6	Flavors Stack Chair	4.5	4.5	3	4.5	4	4
7	Noodle Chair	5	5	4	5	N/A	5
8	Artcobell Spots	N/A	N/A	N/A	N/A	N/A	N/A
9	Soft Rocker	5	5	N/A	5	N/A	N/A
10	Artcobell MOV Dynamic Stool	5	5	5	5	N/A	5
11	Wisconsin Bench Mobile Storage Cabinet	5	5	5	5	N/A	N/A
12	Wisconsin Bench Cubbies	5	5	N/A	5	N/A	N/A
13	Smith Systems Silhouette Lectern	5	4	5	5	N/A	N/A
14	NorvaNivel Incupod	5	5	N/A	5	5	4
15	NorvaNivel Sensory GrassyOtt Domes and Benches	3.75	4.25	3.75	4.75	3	5
16	NorvaNivel Crashpod	3.6	4	3.75	4.2	3	4.75
17	NorvaNivel Genga Blocks	4.75	4.25	4.5	4.5	4	4.33

Ongoing Pilot Evaluation Feedback - Open Comments

Please provide any additional feedback you have on any of the items you provided feedback on above.

- The reception from the students has been positive. They are eager to use the new sensory space as a reward for completing tasks and participating in class. *(Feedback from Therapeutic Coach)*
- My middle school students love the whiteboard tables and use them all the time, for work and for artistic expression. They also LOVE the comfy chairs and the "tv tray" tables to work on. It makes them productive and at ease. I love watching them choose where and how they set up their work space - so many options to help them regulate and have what they need to be successful. Thank you! *(Feedback from LRC Teacher)*
- Equipment provided for a sensory room was heavy on GengaBlocks and not much else. Grassy domes/benches and the NoraNivel crash pod pillow cases are challenging to use for students with tactile sensitivity. *(Feedback from Occupational Therapist)*

Do you have any other comments or thoughts regarding the pilot furniture?

- We love the screens and dry erase group tables. The new furniture is working out great! *(Feedback from CB Teacher)*
- I would have loved to have the desks/table that I received be hydraulic. That way my students could make them into standing desks when they need them, and could have the autonomy to do it. If I had 4 hydraulic desks, and two white board tables, it would be incredibly flexible and we wouldn't need the high top. The whiteboard partitions are useful...but I would love if they were taller, the white board goes almost all the way to the ground, and students aren't able to see it from every part of the classroom. The hightop student desk is nice, but cannot be used as a standing desk well. *(Feedback from LRC Teacher)*
- In the future, consultation with occupational therapists trained in sensory processing and neuroscience of sensory systems should be considered to ensure equipment being ordered is going to serve the purpose as intended. Entire sensory systems were not considered - tactile systems, fluorescent light covers, alternative lighting options, environmental modifications for sound, movement based tools such as rockers would be nice to include in an order for a holistic and inclusive sensory room. *(Feedback from Occupational Therapist)*

Survey 2 Results: Final Evaluation

The Final Pilot Feedback was open for teachers to provide feedback on the furniture from March 10th - March 24th. This feedback survey provided the teachers a final opportunity to provide feedback on whether the items positively or negatively impacted their classroom overall.

Respondents were also given the opportunity to comment on what items worked well or did not work well, and whether any furniture required workarounds (diminishing ease of use).

Final Pilot Evaluation Feedback: March 10, 2023 - March 24, 2023							
Overall, please indicate how the following items impacted your and/or your student's classroom experience:							
	Furniture Item	ISC Teacher	School Psychologist	LRC Teacher	LRC Support	CB Teacher	Para Educator
1	Campfire Screen	Positively	Positively	N/A	Positively	N/A	N/A
2	Smith System Flowform Ottoman	N/A	Positively	Positively	Somewhat positively	Positively	N/A
3	NorvaNivel Hex seating	N/A	Positively	Positively	Somewhat positively	N/A	N/A
4	Oodle Stool	Neutral	Positively	Positively	Positively	Positively	Neutral
5	NorvaNivel Rocker Ott Stool	Positively	Positively	Positively	N/A	N/A	N/A
6	Flavors Stack Chair	Somewhat negatively	Positively	Positively	Positively	Positively	Neutral
7	Noodle Chair	Somewhat negatively	Positively	Positively	N/A	Positively	Neutral
8	Artcobell Spots	N/A	N/A	Somewhat positively	Somewhat positively	N/A	N/A
9	Soft Rocker	Positively	Positively	Positively	Positively	Positively	N/A
10	Artcobell MOV Dynamic Stool	N/A	Positively	Somewhat positively	Positively	N/A	N/A
11	Wisconsin Bench Mobile Storage Cabinet	Somewhat positively	N/A	Neutral	Positively	Positively	N/A
12	Wisconsin Bench Cubbies	N/A	N/A	N/A	N/A	Positively	N/A
13	Smith Systems Silhouette Lectern	N/A	Positively	N/A	N/A	Positively	N/A
14	NorvaNivel Incupod	N/A	Positively	N/A	N/A	Positively	N/A

15	NorvaNivel Sensory GrassyOtt Domes and Benches	N/A	N/A	N/A	N/A	N/A	Positively
16	NorvaNivel Crashpod	N/A	Positively	N/A	N/A	Positively	Positively
17	NorvaNivel Genga Blocks	N/A	N/A	N/A	N/A	N/A	Positively

Final Pilot Evaluation Feedback - Open Comments

What items worked well and what items didn't work well?

- My students really enjoyed the campfire screen, Noranivel rockers, and soft rockers. I loved that the campfire screen gives privacy but also allows the teachers to see through it for safety and I loved the versatility of the Noranivel rockers. I liked the seat options like the stackable chairs and noodle chair however since I teach K-2 the chairs were way too big for the students and their feet did not touch the floor when at their desks. *(Feedback from ISC Teacher)*
- soft rocker, crash pad, and incupods *(Feedback from School Psychologist)*
- The students love multiple seating options and the whiteboard tables. Teachers love everything on wheels and able to reconfigure the classroom to meet the multiple uses the room has. It also allows us to use one space for multiple groups/functions at a time. *(Feedback from LRC Teacher)*
- The dry erase tables and flexible seating options as a whole have helped support student engagement. The rolling dividers have been very helpful when multiple small groups are working in the learning center at the same time. The visual dividers that roll up have also been extremely helpful to support student focus and engagement. *(Feedback from LRC Support)*
- So far, all items are perfect and working well *(Feedback from CB Teacher)*
- The few items we received seemed to work great. *(Feedback from Para Educator)*

Did any of the furniture require workarounds?

- All chairs needed foot rests for my shorter/smaller students, and all desks needed adjustment to the lowest setting and even that is too tall for some of my littler students. *(Feedback from ISC Teacher)*
- Just moving the furniture around to meet our needs at any given time frame. *(Feedback from LRC Teacher)*
- The Smith Oodle Stool is a little tricky to put back together. *(Feedback from LRC)*

Support)

- I was under the impression that they were going to be bolted to the floor. Since they aren't, there is a lot of building and cleanup every time, but I think the kids enjoy that. I also think it presents some possible safety issues as they climb on tall towers of the genga blocks that could be unstable. *(Feedback from Para Educator)*

Do you have any other comments or questions regarding the pilot furniture or pilot process?

- It would be great to get hi-lo desk and smaller chair and desk options for my smaller students. We were also given compass chairs which we are a big fan of, and dividers which were alright, I think we were given a lot of them and I didn't necessarily need all of them, as well as the white boards on the dividers would have been nice to be magnetic and the vinyl is odd texture that you can't pin or tape items to. I love the white board desks as an option for small groups and such but still a bit big for my smaller students. We liked the Bench shelves and the bigger cabinet, we would like maybe like 1 or 2 more of them as they are super helpful for storing stuff. *(Feedback from ISC Teacher)*
- This furniture was greatly needed in our CB classroom. Students are enjoying it and making good use of it. *(Feedback from School Psychologist)*
- We are so excited that our classroom was chosen. Thank you. *(Feedback from LRC Teacher)*
- The new furniture has been very helpful to support student engagement in the learning center. It has also helped with teaching students to reflect on what tools support them as learners. There are a few times during the day where students are pulled to work in small groups or one on one in the learning center. However, students spend most of their day in the general education classroom. I think the furniture upgrades could be even more beneficial if they were implemented in general education classrooms to support an integrated classroom setting, and to support students during a greater portion of their school day. *(Feedback from LRC Support)*
- The dry erase tables and dividers are perfect. I feel they are very necessary. *(Feedback from CB Teacher)*

PPS SPED Student Worksheet Feedback (see appendix V.C.)

Students were given the chance to provide feedback on the pilot furniture through a worksheet in which they were able to check a box next to each item whether they liked the furniture item or not and provide a reason why.

Most of the substantial feedback received from the twelve students that participated was around the following items:

- NorvaNivel Rocker
 - 6 positive votes
 - Comments: Comfy, easy to clean, can stand on, can rest legs on them, cozy
 - 1 negative vote
 - Comments: Not many people sit on them or use them
- Flavors Stack Chair
 - 8 positive votes
 - 1 negative vote
 - Comments: I don't like that these move
- Noodle Chair
 - 7 positive votes
 - Comments: Pretty good, focus, liked the movement
 - 1 negative vote
 - Comments: Did not like the movement
- Artco Bell stool
 - 4 positive votes
 - Comments: better than old ones
- Favorite items of students:
 - Couches and tables
 - Comments: Comfy / good for focus
 - Whiteboard tables (to express themselves)
- Other relevant comments:
 - "We wish we had hydraulic tables"
 - "Why are the whiteboards so low?"

Recommendations

Final Furniture Package

Hyphn Specified furniture can be found in the [final presentation deck dated 10.21.22](#).

Alternates and Substitutions

Upon review of the pilot feedback received, the products that should be evaluated for substitution include the Flavors Stack Chair and the Noodle Chair, as these chairs presented a problem for the younger students.

- **Flavors Stack Chair** - substitute [The Numbers Chair](#) if deemed appropriate.
 - The Numbers chair offers optional 360 degree so students have a choice in how they sit.
 - The chair's shell has enough flex and "right" angle to let kids turn, twists, fidget—and above all—find their favorite sit. Benefits of the Numbers chair include easy lifting (two repositioning options), a durable chair shell and also stack ability.
 - *****Please note:** *the Flavors Stack chair comes in sizes for preschool up to 12th grade. So a smaller size may just need to be ordered.*
- **Noodle Chair** - substitute for the [Alphabet Rocking Chair](#) if deemed appropriate.
 - The Alphabet rocking chair is engineered for mobility. The chair provides movers of all sizes a chance to relax or burn off a little energy with its dynamic seat. The opening on the seat back acts as a handle, providing instructors & students the opportunity to easily move the chair as needed.

While the NorvaNivel Genga Blocks and CrashPod furniture weren't rated negatively across all survey respondents, based on survey comments, we recommend working with the Occupational Therapists in the schools to help identify additional furniture to supplement the Sensory Rooms. Specifically, the grassy dome/blocks and CrashPod were difficult for students with tactile sensitivity. More options for students with varying sensitivities is recommended for the sensory rooms.

Based on the survey results, the items that were most highly rated are below:

- Campfire Screens (based on anecdotal information and open survey comments)
- NorvaNivel Rocker Ott Stool
- Noodle Chair (with the exception of the younger classrooms)
- Soft Rocker
- Artcobell MOV Dynamic Stool
- Wisconsin Bench Mobile Storage Cabinet
- Wisconsin Bench Cubbies

- Smith Systems Silhouette Lectern
- NorvaNivel Incupod
- White board tables (not directly involved with the pilot, though mentioned in the open comment section)

Takeaways and Lessons Learned

Stakeholder Engagement

Stakeholder engagement is a critical component to user-centered design. Involving stakeholders throughout the process not only helps to understand their preferences and expectations, but it also elevates the quantity and quality of the feedback received and enhances user experiences by fostering ownership and inclusivity. Their diverse perspectives and expertise enable informed, iterative design for real-life applications.

Going forward we'd recommend taking these actions prior to a future pilot to ensure maximum stakeholder engagement and satisfaction:

- Work with PPS procurement experts to establish an engagement strategy which allows a higher level of stakeholder engagement. Identify critical dates for engagements which will either be permissible through overtime hours or allow engagements to be during school hours.
- Allow for a more diverse set of responses and input from a variety of users including OTs, PTs, teachers, administrators, para educators, students, and parents.
- Extend pilot period to a minimum of 90 days to allow ample time for testing and feedback.
- Provide multiple channels for feedback, including in-person opportunities, town halls, and surveys.

Project Scope

In order to provide pricing that will most effectively address the identified design goals and criteria for the district and support small business vendors, moving forward, we recommend:

- Define project success criteria through a Value Alignment Workshop with stakeholders in order to measure progress throughout the project. Definition of project success will also allow for a more concise survey.
- Establish a clearer understanding of project scope- include all identified classrooms and existing conditions prior to design. Allow for a small design contingency to allow modifications of the design to meet existing conditions.
- If unable to define scope details, allow for a larger design contingency which will accommodate changes to the design within the allotted budget once site conditions are known.

- If it is desired to use the final design package for other vendors to procure and install, expressly state intentions in the solicitation and contract language.
- Prior to executing the vendor contract, ensure PPS standards that are intended to be incorporated into the project have been identified and captured in the contract language. Align and provide transparency on the process for measuring success of the standards vs the newly specified furniture.

Appendix

See Hyphn PPS SPED Appendix_05.19.23 file for appendix documents

- I. Hyphn Prep Docs
- II. Schedule
- III. Workshops
 - A. Workshop #1
 - B. Workshop #2
- IV. Design
 - A. Furniture Layout Plans
 - 1. Furniture Concepts
 - 2. Final Furniture Package 4.27
 - 3. Furniture Package 6.01
 - 4. Final Furniture Package 6.13
 - 5. Furniture Package 10.21
- V. Pilot Surveys & Student Feedback
 - A. Ongoing Feedback
 - B. Final Pilot Survey
 - C. Student Worksheets
- VI. Supplemental Information
 - A. PPS Standards + Standards Substitutions
 - B. PPS SPED Pilot Experience Preview Boards
- VII. Alternative Products
 - A. The Numbers Chair (Flavors Chair Alternate)
 - B. The Alphabet Rocker (Noodle Chair Alternate)