

*Guidelines for Design of Learning Environments for
Children on the Autistic Spectrum*

The Argument

_ guidelines to designing a learning environment, specifically for grade school children on the autistic spectrum, is bare.

_ there is psychological evidence in regards to the disorder, but no connections to the design implications of learning environments.

_ developing design guidelines based on the knowledge, can help develop appropriate learning environment for children on the autistic spectrum.



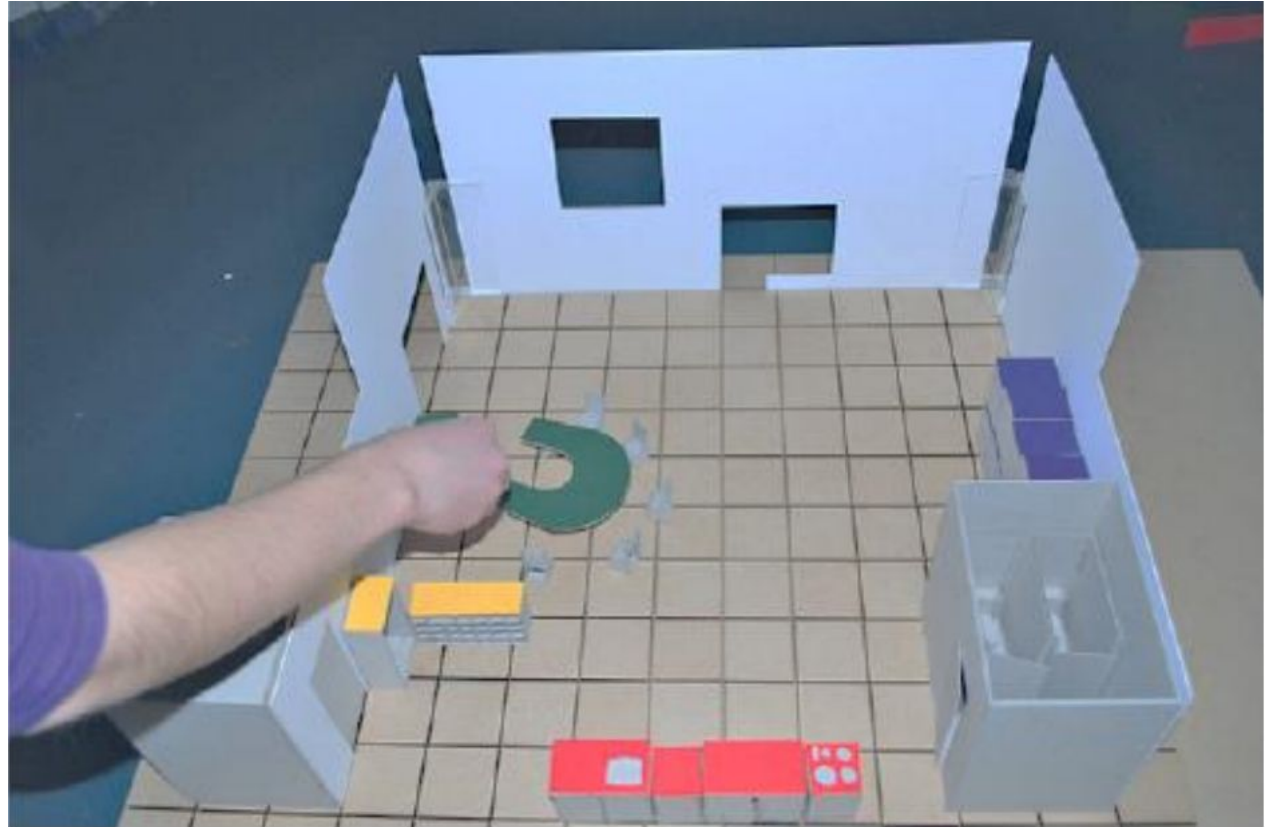
Literature Review

_ Mokhov starts off by introducing the autism spectrum and its characteristics

_ emphasized significance of learning environments for children on the spectrum, due to its responsibility as the children's initial foundation of future independence.

_ analysis of existing design recommendations and built environments for mentally impaired users and coordinated with teachers who are constantly interacting with autistic students.

_ majority of articles retrieved from cognitive and clinical psychology, behavioral sciences, and neurosciences.



Methods and Procedures

_ synthesized literature review to develop “key knowledge” which is essentially summarizing the research into a concise set of issues.

_ from the “key knowledge”, related design problems were produced.

_ the related problems makes it easier to develop design implications for the learning environments.

_ based on patterns derived from the research, 7 design principles were also established.

<i>Key knowledge</i>	<i>Related Problem</i>
KK1: Behavioral flexibility is the neuropsychological ability to shift from one sequence of actions to another in response to changes in the goal execution context (e.g., the route that one usually uses is closed and one should search for alternative) (D’Cruz et al., 2013). ⁷⁶ Due to a reduced cognitive and behavioral flexibility, people on the AS may have problems with transition from one occupation/task to another (see D’Cruz et al., 2013; Reed et al., 2013; Ozonoff et al., 2004; Sterling-Turner & Jordan, 2007). Transitions between occupations may become highly stressful for individuals on the AS (Sterling-Turner & Jordan, 2007).	P1: An environment that has an <i>abrupt change between different activities (e.g., moving from one task to another)</i> may be confusing and distressing.



visual cues



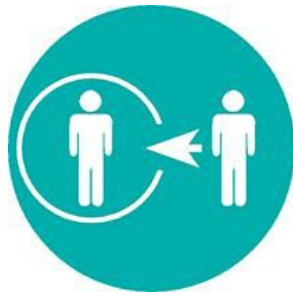
regularity and order



hierarchy



control of stimuli



social control



health and well-being



specific learning material

Methods and Procedures

__ 7 design principles are to be viewed as general ideas for designers to keep in mind when designing a space for users on the spectrum




_various design guidelines were produced to resolve the 26 problems developed from “key knowledge”.

_ each design guideline is accompanied with either a graphic for comparison, or a sketch for visual reference.

Problem 4:

High levels of visual stimuli can create a sensory overload.

G 4.1: Prevent clutter in the LE (see Fig. 10).

-  S 1: Provide storage containers and cabinets for each activity area.
 - Storage containers and cabinets should be located close to spaces where the particular activity occurs so the material/toys may be immediately removed when they are no longer needed.
-  S 2: Provide information board(s) in specific spaces of a classroom to prevent cluttering a classroom’s walls.
-  S 3: Consider using movable boards or table letter-boards in each activity area of the LE to transfer the information from walls to areas where it is most relevant.

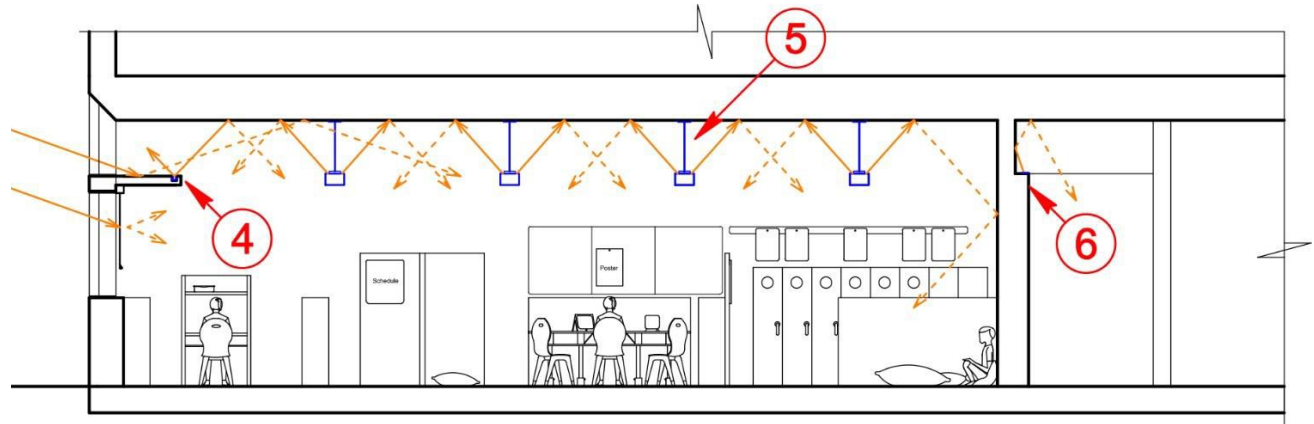
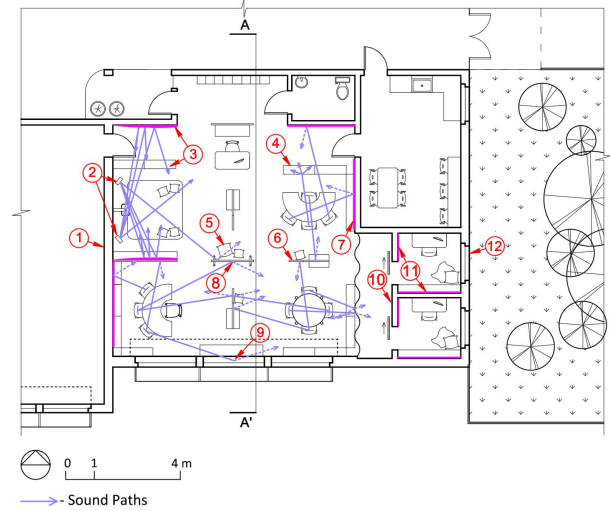
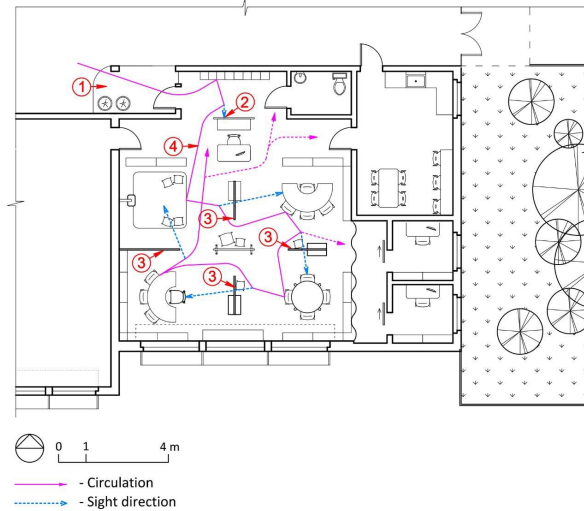


Results

_two prototypes were produced utilizing the design guidelines Mokhov developed.

_two existing schools were used to demonstrate the proposed guidelines. They were executed through the school block and in an individual classroom for each school.

_the prototypes highlighted different categories: classroom design, circulation, acoustics, lighting and thermal conditions.



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Comments and Suggestions

Mokhov developed a very extensive and well-written thesis. The guidelines that were produced can be very inclusionary for autistic children, but children not on the spectrum can also benefit from its characteristics. The prototypes were very detailed and well thought out.

However, I feel that having personal interaction with autistic children can also be productive in his research. There are several schools in Buffalo that accommodate to children on the spectrum and I feel that documenting how the schools provide for the population now would be insightful.

