

Multi-Sensory Environments for Special Populations

.1 CEU Seminar

Presented by InteriorDesign-ED

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Multi-Sensory Environments for Special Populations, page 1:

Introduction

Multi-Sensory Environments (MSE's): What Are They and Who Are They For?

The History:

In the mid-1960's two American psychologists, Cleland and Clark, developed the concept of a multi-sensory environment. They theorized that sensory stimuli could improve development, communication and behavioral problems in people with disabilities.

They created "sensory cafeterias" which were highly stimulative environments where patients with various cognitive and physical impairments could engage with different sights, sounds, smells and textures.

In the late 1970's two Dutch therapists, Jan Hulsege and Ad Verheul, furthered this concept. These two men, working at the De Hartenberg Institute in Holland, a center for people with intellectual disabilities, learned of the positive responses their colleagues in America were able to elicit from severely challenged clients, while exposed to these sensory environments.

Intrigued by what they learned, Hulsege and Verheul set up an experimental sensory tent at an annual summer fair to further test this idea. This first sensory structure constructed by the therapists was simply a roof on poles with plastic sheeting dividers. It was filled with an assembly of items including a fan blowing bits of paper, ink mixed with water and projected onto a screen, musical instruments, tactile objects, scent bottles, soaps, and flavorful foods.

It was observed that low-functioning clients demonstrated both positive verbal and nonverbal feedback with regards to the effects within this multi-sensory environment. The following summer, Hulsege and Verheul built another sensory environmental structure within the center. They also gave their version of the concept of a sensory therapy environment a name: "Snoezelen". The word "Snoezelen" is a contraction of the two Dutch verbs "snuffelen" , meaning to seek out or explore, and "doezelen", which means to relax.

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Word about the success of their experimental multi-sensory therapy environments created at De Hartenberg soon traveled throughout Europe. Other therapists, working with similar patient populations, began to create both permanent and semi-permanent "Snoezelen" rooms at their centers.

The Growth of Snoezelen Therapy Rooms & MSE's:

During this time, many items were fabricated and adapted from various materials which the therapists collected. There were no commercial products available to create Snoezelen therapy rooms.

However, in the few years following the first experiments, a company based in the U.K., ROMPA International, created a full range of products for Snoezelen environments, registering the SNOEZELEN® trademark of ROMPA® Ltd. All Rights Reserved.

The Snoezelen products developed by ROMPA were specifically designed to interact with clients and elicit sensory responses.

Over the past forty years, Snoezelen therapy rooms and MSE's, as well as sensory stimulating products continue to grow in sophistication, using state-of-the art technology to provide wonderful, intriguing spaces with lights, sound, aroma, tactile surfaces, moving images, and other sensory experiences.

During the last two decades, both SNOEZELEN and Multi-Sensory Environments have grown internationally with thousands of installations in over 30 countries, including Israel, Australia, and the Philippines. Additionally, there are worldwide foundations which hold both national and international conferences, as well as conduct international research projects.

In 1987 a landmark SNOEZELEN environment was installed at Whittington Hall, a large institution in North Derbyshire, England. This facility cares for adults with intellectual disabilities. The management team, hearing about the experiences of the Dutch, became quite interested in this type of therapy and its potential benefits to their patients.

They were able to raise a major grant from Rotary International. Joe Kewin, a senior manager and his team, designed a multi-faceted SNOEZELEN center with the assistance of ROMPA.

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The project at Whittington Hall became the premier SNOEZELEN installation in the U.K. They created six unique sensory environments for their clients and pioneered the early research which evaluated patient responses to a multisensory approach. The results of that early work were impressive, particularly with those patients who demonstrated self-abusive behaviors. A marked reduction in this destructive behavior was observed.

SNOEZELEN therapy rooms and MSE's are now widely used in many types of healthcare and education settings, for both children and adults. Research, both evidence-based and anecdotal, has demonstrated positive results for children with developmental disabilities, autism, cerebral palsy and other disorders.

Positive results have been demonstrated with adults suffering from dementia, Alzheimer's, mental illness, and for those who suffer from chronic pain. Patients with traumatic brain injuries also have had beneficial effects from being immersed in Snoezelen and multi-sensory environments. In addition, these environments are gaining momentum in the mainstream population as a method to reduce stress.

The Growth of Snoezelen Therapy Rooms & MSE's in North America

FlagHouse, a supplier of equipment for physical education, sports, and special needs equipment, encountered SNOEZELEN during visits to Europe in 1991. In Britain, Barbara McCormack, now a FlagHouse Vice President, discovered that her two year old severely challenged and blind daughter actually had some vision in a SNOEZELEN setting.

In further visits, FlagHouse staff witnessed the extraordinary potential of SNOEZELEN to have a positive impact on the lives of people with disabilities. Later that year, FlagHouse signed an exclusive distribution agreement for North America with ROMPA International, the owners of the SNOEZELEN trademark.

FlagHouse launched their SNOEZELEN product line through catalog distribution in the Fall of 1992. They described the SNOEZELEN concept, showcasing the new, unusual and exciting products.

They had an overwhelmingly positive response from teachers, physical and occupational therapists, end users, as well as the design community involved in healthcare design for special populations.

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The first two SNOEZELEN multi-sensory environments were installed at Lifespire (formerly ACRMD) in New York City, an organization serving the needs of adults with intellectual and physical disabilities, and Bloorview MacMillan Children's Centre (formerly Bloorview Children's Hospital), a children's long term care hospital and rehabilitation center in Toronto, Canada. These two installations marked the advent of Snoezelen into North American facilities.

From that point on, news of SNOEZELEN spread quickly in North America with new installations hosting hundreds of visitors each year.

SNOEZELEN use has continued to grow each passing year, with over 700 installations in North America to date. SNOEZELEN rooms have been created in almost every state in the United States, as well as throughout Canada.

The user base has expanded and diversified, as well. In North America, SNOEZELEN is used in schools, mental health facilities, hospitals, nursing homes, rehabilitation centers, group homes, Geri-psych programs, Dementia and Alzheimer's units, hospices, substance abuse rehab centers, early childhood programs, autism programs, anger management programs and others.

The year 1999 marked the culmination of almost a decade's effort by FlagHouse to develop Snoezelen throughout North America. The 3rd SNOEZELEN World Congress was held in Toronto, Canada, and the North American SNOEZELEN Conference was held in 2000.

These events united the worldwide SNOEZELEN community in continued efforts to share information and experiences. From these conferences, new approaches continue to be developed from the ongoing research at many institutions and universities. FlagHouse has developed a trainer certification program, an extension of client services and an extensive offering of exceptional products.

There are now two fully equipped mobile SNOEZELEN trailers on the road, visiting facilities and homes in an effort to further the reach of Snoezelen therapy.

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Inspired by the 1999 SNOEZELEN World Congress, Susan Berry, Principal of Escambia Westgate Center for children with severe disabilities located in Pensacola, Florida, approached FlagHouse in 2003 to design a world-class, stand-alone SNOEZELEN center that would expand and enrich the sensory world of children with disabilities. Escambia Westgate has 240 pupils, ranging in age from 4-21, with a broad spectrum of abilities from mild intellectual and physical impairments to severe multiple disabilities. Two years later, on November 29, 2005, the Lacey A. Collier Snoezelen Sensory Complex was dedicated.

This 11,000-square-foot facility, located at the Escambia Westgate Center, is named in honor of U.S. District Court Judge Lacey Collier, who worked with Susan Berry to plan the facility and helped raise the funds for its construction. It was also built with assistance from Greenhut Construction and is one of the largest such facilities in the nation.

The center, with a completely accessible floor plan, takes the concept of using sensory experience within a learning environment further than ever before with:

- tactile, visual, auditory, olfactory and other sensory experiences
- skill-building gross-motor and fine-motor activities
- learning opportunities for all levels of ability
- interactive and empowering opportunities
- small and large spaces for group or one-on-one activities
- opportunities for life enhancement outside the usual frame of reference.

Based in Chattanooga, Tennessee, Orange Grove is a community provider of comprehensive services for children and adults with intellectual and physical disabilities and developmental delays. Partnering with FlagHouse, Orange Grove opened the doors to its brand-new, state-of-the-art SNOEZELEN Center in spring 2005.

Among the themed sensory spaces is the Jungle Room, with an overgrown swamp and ample foliage. There is a tactile volcano, an interactive tree, an accessible tree walk and tree houses. For more tactile sensations, the air is humid and the atmosphere is rich with the aroma of moss and grasses.

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Another room, the wheelchair accessible igloo, is complete with a sound activated ice wall, lake, penguin colony, and crystal cave. Gentle music, twinkling lights, and soft blankets to curl up into are available. All these elements combine to create a calm, peaceful environment in which the students can relax, recuperate and de-stress.

Since opening, the SNOEZELEN Center has produced interesting anecdotal results. A young man with pronounced autism who had previously demonstrated profoundly limited social and verbal skills appears to be more engaged with his peers and verbalizing.

Another adolescent with acute mental and physical challenges had always been hypersensitive to tactile sensations, often recoiling when touching certain objects. The teacher was awestruck as she watched this student relax and make flat-handed, full-surface contact with a key piece of equipment.

Through their partnership with the University of Tennessee, the SNOEZELEN Center at Orange Grove has become a living research laboratory with a focus on documenting the physiological reactions that their students have to SNOEZELEN.

According to Dr. Rick Rader, Director of the Morton J. Kent Habilitation Center and research coordinator at Orange Grove, "High on the research agenda is the actual measured physiological response to various sensory scenarios. As we progress with the design of various research projects, we will strive to employ a multitude of established parameters that will hopefully lead to the use of the SNOEZELEN Multi-Sensory Environment as a stabilizing feature in the educational milieu."

In 1992, the first Multi-Sensory Environment room was established in New York by Linda Messbauer, an occupational therapist, to offer people with challenging conditions the opportunity to enjoy and control a variety of sensory experiences.

In 2006, the American Association of Multi-Sensory Environments, AAMSE, was founded to provide awareness, information and research around concepts of Multi-Sensory Environments and the positive effects it has on people with various conditions.

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At the MukiBaum Treatment Centres for Adults and Children with Complex Disabilities in Canada, adults with autism can benefit from a unique program designed to help them regulate and integrate sensory input in ways that greatly impact their lives. The center features three Snoezelen areas that help meet this goal: relaxation room, activation room and wet spa, new in January 2010.

The purpose of these multi-sensory rooms is not just to calm people down when they're upset - though Snoezelen can do that- but also to meet a range of sensory needs, specific to each client. Therapists have observed that giving people the ability to regulate their own sensory needs can make a positive difference in their lives.

Theory and Philosophy

The basis of both the multi-sensory environment or MSE (also known as Stimulus Preference Room) and Snoezelen is that the environment is designed to stimulate the senses through light, sound, touch and smell, in a safe and non-threatening manner. Therefore, they are both a physical space, as well as a process.

However, there is a major distinction between the MSE and a Snoezelen environment. The MSE is a more controlled environment, whereby, for each sensory modality, the patient or client has a fixed amount of time to interact. Also, all four sensory modalities of visual, tactile, olfactory and hearing must be stimulated during each session, in order to re-sensitize individuals to sensory functions.

MSE's are directed by the caregiver and are target specific. The rooms are adapted to individual choice in terms of the client's most favorite stimuli.

In the MSE, the sensory stimulation can be controlled, intensified or reduced, presented in isolation or combination for active or passive interaction. It is matched to fit the perceived motivation, interests, leisure, relaxation, therapeutic and/or educational needs of the individual.

Snoezelen, on the other hand, is based on non-directive approaches, relaxation and free choice. The idea of a non-directive approach was central to the therapists' original philosophy of Snoezelen. They reasoned that they could see their clients as they really

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were, free to make their own choices. If their clients entered the room 'blank,' every possibility would be open for them.

Most of the stimuli are interactive. The patient or student first needs to touch the stimuli in order for the stimuli to become active.

Stimuli are distributed throughout the room without any specific rules and the patient, supported by the caregiver, can interact in a free way and within his/her own timing with each different stimuli.

It is a “preference at the moment without any rules” approach. The patient is free to move about the room as he/she wishes, although is guided by the caregiver to interact with the stimuli. No interaction other than guidance occurs between the caregiver and the client/patient.

The core concept of Snoezelen is that patients are free from the pressures to perform or achieve. If they are liberated from control and routine and are detached from medical diagnosis and known limitations, clients can react and respond to this new sensory world in their own special way.

Louise Haggart and Roger Hutchinson described this philosophy further in their 1991 paper on Whittington Hall. The authors defined it as 'the enabling approach,' a sensitive, caring, non-directive approach in which an atmosphere of safety and security is created and free choice encouraged.

In both types of environments, Snoezelen and MSE's, children and adults with disabilities or other limiting conditions enjoy gentle stimulation of the primary senses. The main objectives are to encourage cognitive stimulation and to provide a place of relaxation and exploration.

According to the non-directive Snoezelen approach, participants experience self-control, autonomous discovery, and exploration. In MSE's, they are directed towards a particular stimulus. In both, however, achievements can overcome inhibitions, enhance self-esteem, and reduce tension.

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The Benefits:

Research has shown that multisensory environments offer a wealth of benefits, often affording the participant and caregiver an opportunity to improve communications, enhance their understanding of each other, and build trust in their relationship.

Limitations of movement, vision, hearing, cognitive ability, constrained space, behavioral difficulties, perceptual issues, pain, and other problems which patients have create obstacles to their enjoyment of life. MSE's and Snoezelen Rooms provide opportunities to bridge these barriers through exploration and interaction with the environment in new and captivating ways.

Many facilities utilize the multi-sensory rooms as part of their Physical and Occupational Therapies, where therapists can measure responses and outcomes, and monitor goals. The benefits include the development and enhancement of:

Social and Emotional Skills:

- Advances Wellness
- Encourages communication, sharing and social interactions
- Provides a sense of security
- Promotes calmness and decreases aggression
- Provides avenues of choice and self-determination
- Provides relief from pain

- Provides a place of fun and exploration
- Offers an atmosphere of restfulness and relaxation

Sensory -Motor Skills:

- Advances coordination and motor development
- Develops or reactivates senses of hearing, sight, smell, touch, and taste
- Encourages participants to explore their environment

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Cognitive Skills:

- Enhances cognitive development by increased brain function
- Elicits creativity
- Improves language by producing vocalization
- Increases concentration and attention
- Increases awareness
- Instills a sense of cause and effect

MSE's have powerful forms of sensory stimulation for individuals previously isolated by their disabilities, and provide new ways of encouraging learning, motor development, cognitive development, social and language skills. The varied optical, acoustic, olfactory and tactile stimuli help hyperactive individuals concentrate and focus better.

Among the special populations who can benefit are those with:

Attention Deficit Disorders and Attention Deficit/Hyperactive disorders

Autism Spectrum

Dementia and Alzheimer's Disease

Depression

Developmental Disabilities

Post traumatic stress Disorders

Sensory Processing problems

Stroke

Traumatic Head Injury

Visual Impairment

Mental Retardation

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Designing Snoezelen Therapy Rooms and MSE's:

As designers, we have the ability to affect the lives of people through interior design. In the sector of healthcare design, our work can significantly impact individuals with developmental disabilities, autism, dementia, psychiatric disorders, and other challenging conditions in their recovery and with the therapeutic process.

The design of any environment, particularly a Multi-Sensory Environment or Snoezelen Therapy Room, needs to be well-thought out and designed to effectively contain the multitude of products and effects which create the therapy. These elements can be incorporated into a design in such a way as to be intriguing, accessible, and speak to the sensory modalities that must be addressed.

Consideration must be given to the diverse needs of the population for which the therapeutic environment is designed. Persons with developmental disabilities may or may not be ambulatory, may be sighted or have limited or no vision, and may have attention deficits, in addition to other difficulties.

Intensive programming with the professional therapists and staff is essential to creating a design which provides the intended therapy of the MSE.

Further considerations in the design of multi-sensory environments are:

Space Planning: The space plan should provide educational, recreational, and therapeutic opportunities with enough flexibility to meet the varied needs of those who will utilize the space within the facility.

Electrical: Many of the products require electrical connections, as well as radio-controlled outlets. Among these products utilized may be bubble tubes, projectors which may be mounted to the ceiling as well, fiber optic light spray cables, interactive panels, light panels, black lights, aroma therapy panels, and others.

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The facility staff needs to understand, experience, and become aware of the effects of light and sound within the Snoezelen room and MSE's. They must also master the use of the equipment competently and appropriately, as well as create measurements for future analysis, the results of which are to be shared with other staff, the professional communities, and family members.

Specialized Products in Design:

Snoezelen and MSE's may include the following

Lighting Effects: Products to create these effects would include projectors with wheels that disburse light patterns throughout the room, bubble tubes, spotlights, star panels, fiber optics, UV lights, mirror balls, and twinkle lights. Bubble tubes can be unicolored or with a colored disc which rotates colors. They are also available with floating objects such as fish, stars, and the like.

Sprays of glowing fiber optics provide intriguing tactile and visual experiences. They are available in changing colors with as much as 200 strands and are safe to hold, stroke, wrap around one's body and lie on. The soft glow encourages exploration and improves attention while providing a calming effect.

Sensory Activities: These would be activities such as blowing bubbles, finger painting, playing with jello or play dough or other activities which are engaging and offer freedom of experience. Music is extremely important in the form of nature sounds, animal sounds, and musical tunes with a variety of notes, rhythm, pitches, and spacing.

Tactile Experiences: Other tactile experiences would include touching objects with changes in textures. Interactive wall panels available in the product stores offer such experiences. Soft items such as mats, pillows, bean bags to hold and sit on the floor are key to the MSE experience, as well.

Cause and Effect Experiences: Items such as switches which allow one a sense of control are effective in MSE's, as well as toys which offer a visual effect, vibrate, make noises, or have varying textures.

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Motion Stimulation: Activities which require motion are important in the MSE environments. Moving in relation to music, jumping and rolling, and swaying activities should be fostered, depending on the therapeutic goals, physical abilities, and other aspects of the particular population for which the MSE is designed.

Other specialized items include and detailed descriptions are available on Snoezelen and MSE product websites:

- Ball Pools
- Acrylic Wall Mirrors
- Mirror Balls
- Spot Lights
- Liquid Projector
- Effects Projector
- Catherine Wheels
- Vibrating Mattresses
- Milky Way or Stars Carpets
- Portable Walls to divide rooms
- Mobiles
- Speakers
- Waterbeds
- Plastic Crawling Tubes with Integrated Interior Lighting

General Products in Design

Among the general products to be incorporated into the design of MSE's are:

Lighting: Ceiling lights should be adjustable with a dimmer, additional indirect lighting, and portable lights such as floor lamps. These are particularly helpful in environments for the elderly. Soft lighting is essential and glare should always be avoided. Room darkening shades or black out draperies may be considered to further the effects of the design of the MSE.

Seating: Comfortable seating for the specific target population is essential. These may include bean bags, classroom seating, lounge furniture, floor mats, among others. Vinyl and crypton fabrics should be considered, as they are durable, stain and spill resistant,

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and easily washable.

Soft chenille and suede-like fabrics with crypton finish are available in the marketplace and should be considered. Seating that has removable and replaceable cushions is another option. Seating with arms helps the elderly with support, and provides a sense of security and psychological.

Many of the specialized Snoezelen and MSE products can be incorporated into millwork, carpet (fiber optics), ceiling tiles and other design features in creative and inconspicuous ways. Projectors, for instance, can be mounted on the ceiling and projected onto window shades, which can be lowered when desired, in order to create a light show.

MSE's provide the healthcare designer an opportunity to be creative with designs developed for specific patient populations. The designer can become part of the research team and help to evaluate the effectiveness of their design, as well.

Case study at Broward Children's Center, Pompano Beach, Fl.

As an example of a multi-functional classroom, the Broward Children's Center will be renovating a freestanding structure over the next few months.

The program calls for the space to be used as both an educational classroom for both ambulatory and non-ambulatory children and adults with a multitude of disorders. Many of the individuals suffer from congenital defects and disorders, as well as a multitude of injuries from car accidents and near-drownings.

The facility will be designed to "transform" from a classroom to a Snoezelen environment when needed. In order for the design team to accomplish this task, the design will be variable, with features which have more than one function.

The design will consist of millwork which will encase bubble tubes.

The cabinet doors will slide back so that the tubes are visible during use. Also, the work counter will be supported on large curved brackets, with the intention of allowing a crawling discovery tube to be put in place under the continuous work surface, so that the patients and students can experience the lights within the tube and receive their necessary physical therapy.

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Motorized blackout shades will be hidden behind cornices. They can be lowered to act as projection screens for light shows. Projectors, mounted on the ceiling, can be directed to the shades, to create the various light shows.

Floor mats and area rugs with fiber optics will be available and taken out of storage when the room converts to the MSE. The entire center of the room will be clear floor space, as all the workstations will be built along the perimeter of the room.

Additional features include cabinets which house fiber optic sprays which can be draped about an individual, as well as shadow boxes with the sprays projecting through them. Patients and students can wheel up to these sprays and experience them without removing them from the cabinets.

Aromatherapy and music therapy will also be incorporated into the room design in order to offer a complete multi-sensory experience.

Conclusion

Throughout the world research continues to substantiate Snoezelen and MSE's as a positive therapy for both children and adults suffering from a wide range of illness, disabilities, and disorders, as well as during pregnancy and delivery.

Among the populations which can benefit from these diverse multi-sensory environments are children with special needs; individuals with developmental disabilities; persons with mental health disorders, post-traumatic stress disorders, autism, stroke and traumatic brain injury; chronic pain patients; dementia and Alzheimer's, and pregnant women.

Through design, the MSE can effectively contribute to the quality of life for those who experience the many aspects of the environment. The healthcare designer will most likely have ample opportunity for uninhibited creativity and create not only rooms of beauty, but vibrant rooms which further the therapeutic process.

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Brenda Weiss earned her B.A. and B.S. in Education and Psychology from the University of Pennsylvania, her M.S. in Rehabilitation Counseling from Boston University, and her B.S. in Interior Design from Florida International University. She also completed post-master's work at Harvard University's Graduate School of Design, receiving certifications in Hospital Interior Architecture.

Brenda founded Weiss Design Group, Inc. in 1993 with her original focus on healthcare design. Among her South Florida and Philadelphia projects are Mt. Sinai Hospital, Westchester General Hospital, Victoria Hospital, University Hospital, and 3000 BC Spa. Her healthcare projects consist of ambulatory surgi-centers, psychiatric facilities, emergency and ICU departments, med-spas and wellness centers, dialysis units, acute care units, labor and delivery units, and assisted living and nursing care facilities, to name a few.

Over the years, Brenda expanded into residential, commercial, and hospitality design, including restaurants and retail spaces, as well as writing columns and articles on many facets of Interior Design for the Sun Sentinel, Broward County's leading newspaper, and a variety of regional magazines. Brenda's first book, Décor Enterprises' *Designing with Fabrics and Color* is available on all on-line bookstores through her publisher Xlibris.

Brenda is a professional member of ASID, the American Society of Interior Design; IIDA, the International Interior Design Association; and EDRA, the Environmental Design Research Association. Brenda is also a professional Color Designer and holds provisional status with the IACC, the International Academy of Color Consultants, anticipating full status in 2011.

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