

3

THERAPY APPROACH

3.1 Therapy Types

3.2 Sensory Integration

3.3 Colour and Human Response

3.1 THERAPY TYPES

A definition of the different therapy types will follow. However, the term therapy needs to be defined first.

According to Dalley (1987:30), "It can be viewed as a special kind of learning that deals with a person's inner world and the immediate social world."

While Harriman (1980: 202) describes therapy as, "Any procedure which serves to ease, to alleviate, or to cure a disorder or personality maladjustment and which is administered by a professionally qualified expert."

Therapy is aimed at people seeking healing - emotionally, physically or socially. Emotional wounds can stem from abuse, trauma or other painful past experiences. Physical treatment would serve people who, for example, have had a stroke and struggle with fine motor skills and body control, concentration or coordination. Those left with only partially functioning senses will receive healing through the sharpening of the other senses to enable them to lead a life which is as normal as possible (see Sensory Integration).

Through the therapy types, especially, art therapy and bibliotherapy, the problem is externalised and is subject to the patient's influence and control. Externalising the problem helps the person to gain a reflexive perspective on their life.

The role of the therapist is to be a master at creating a suitable space for the specific therapy type - an architect of communication. Through this, easy conversation will lead to sensible healing. The therapist is a participant-observer and a participant-manager of the therapeutic session. (Van der Merwe 2001:

16,17)

Growth within oneself happens through healing. Through therapy, the patients' creativity, intellect and social skills are stimulated. Interplay between these aspects will continue throughout therapeutic activities. (Figure 28)

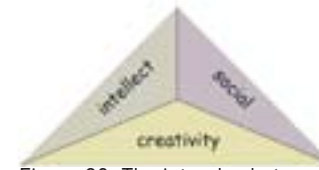


Figure 28: The interplay between intellect, social and creativity during therapy

Art Therapy

Art therapy originated in the time period of 1930 to 1950, and most writers write about art therapy within a theory framework of Freud and Jung.

To express feelings and emotions, the deaf (specifically) or any other person make use of alternative forms of communication. This can be done through painting, sculpting or acting. The patient portrays his/her conscious and sub-conscious thoughts to the therapist in a less emotional or painful way, through a reflection of the inner self. Having an art form to show significant others is a powerful tool for change (Van der Merwe 2001: 59). Mills (1985) explains that art therapy can have a powerful effect on clients by helping them evoke hidden aspects of themselves, and it allows the clients to explain themselves in their own personal way. The therapist understands the art forms and can, consequently, stabilise and treat the patient.

Art therapy can be approached as either two- or three-dimensional. The setup generally needs to be informal, neutral and, above all safe. Depending on the patient, the spaces can be private and quiet, but should be able to easily 'collapse' to create an open feel for group work facilities. The atmosphere should be warm and welcoming.

As art therapy also incorporates drama, facilities should be available for acting out roles, such as a stage-like structure or dollhouses. Human modelling would be carried out as a 3D art form. By modelling a human, certain qualities will stand out. The patient indirectly projects his/her thoughts regarding the model. The art therapy section must also include a basin.

Art therapy overlaps with dance and music therapy, and aims to recover disharmonious backgrounds.

Items necessary for art therapy include: (Figure 74)

- o paint, watercolour, crayons, pastels, felt-tip pens, pencils, paintbrushes.
- o paper, easel, card board
- o paper maché, clay, sand, water, wool, wire, glue, pipe cleaners, clothes pegs
- o masks, make up, finger puppets, string puppets
- o books and a quiet seating area for story reading and developing fantasy.
- o storage facilities for art materials
- o storage space for patients' work
- o exhibition facilities

People are storytellers by nature. Stories provide coherence and continuity to one's experience and play a central role in our communication with others.

Case (1987: 67) states, "It seems that play can flow into art, and art into play." Art therapy is a playful, fun way in which to reach the patient's inner self, and provides healing in a non-threatening way.

Therapy through Projection

The purpose of this therapy type is to use progressive technology to give voice and visibility to the public. Krzysztof Wodiczko, a Polish artist, and his team designed a headset that integrated a camera and microphone, allowing the wearer to move while keeping the transmitted image in focus. The headset is then connected to two projectors and loudspeakers that transmit the wearer's testimonies live. This testimony can focus on a variety of topics, leading to healing. Healing needed from abuse, family disintegration, alcoholism and violence, etc is facilitated. By sharing the stories with other survivors, necessary sympathy can be received in order to move on and find closure (Whiton: CECUT).

By facilitating projections, the participants become the artist, monument animators and truth-tellers. Through grand scale audio-video projects in public spaces, national monuments and architectural façades are turned into 'bodies' as Wodiczko, or the Healing Activities Centre, collaborates with communities to get people to "break the code of silence, to open up and to speak about what's unspeakable". Through the projection, building façades are turned into canvases which display human art. The viewer is confronted with the topic, allowing the viewer to become directly involved in the lives of the inhabitants of the city. Via this architectural form, a bridge is built that links people with other people and touches the community.

Elements needed for therapy through projection to take place include: (Figure 74)

- o headset designed according to Wodiczko's specifications
- o two projectors (one display on the inside, one on the outside)
- o loudspeakers
- o screens against which can be projected
- o gathering space for the participants



- o seating space for the viewers

Music therapy

Rhythm is essential for speech and sound exercises, and also influences a person's heartbeat, pulse and breathing rate. Music therapy is effective because it is a non-threatening way of communication (American Music Therapy Association definition: 2005). When music is applied, experiencing a positive change in attitude enhances the patients' lives. Music therapy is an allied health profession where music is used to encourage development in social or emotional, cognitive or learning, and perceptual-motor areas. It is particularly helpful with autistic children (National Association for Music Therapy). Music can be played to the patients or the patients themselves can play musical instruments, such as drums. The sound of water is a form of music that relaxes and calms the listeners. Water and music can also be combined.

Music therapy includes the combination of vocal music activities and instruments as well, but goes even further to include the singing of birds or other animal noises (see *Sensory Integration: Auditory Sense*).

Dancing also forms a part of music therapy. Music, especially music with a strong beat, helps the patients to understand rhythm.

Different types of music display different responses or behaviours of patients.

Elements necessary to facilitate music therapy include: (Figure 74)

- o certain structures for specific experiences e.g. sound vibration
- o song games
- o paper to 'draw' music
- o a sound board

- o percussion instruments e.g. Traditional African instruments (drums)
- o acoustic tiles to make the sound tactile
- o musical instruments
- o stage for performing dances, songs etc.
- o practice rooms for groups and individuals, which are easily transformed to create new, desirable spaces.

Aromatherapy

The word 'aroma' is derived from Greek and means 'spice'. It is a curative treatment by means of fragrance, and is the art and practice of treating ailments using forms of scent.

Aromatherapy has its origin in 4 500 BC, when the Chinese first discovered plants with medicinal properties. In 1 000 AD, the Arabians successfully distilled rose essence, and used it for perfume, baths and massages. The medicinal properties of the oils were first highlighted in Western Civilisation in the 14th and 15th century when a plague broke out in Europe and Asia (Chandy 2004: *Titillating the Senses*).

By inhalation of the scent, receptors in the nose convert the smell into electric impulses and transmit these impulses to the limbic system of the brain, where the moods and emotions are affected and mental alertness and concentration improved. By massaging the oils into the skin, small oil molecules get absorbed through the pores directly into the blood stream. Aromatherapy is used to release emotional and physical tension, relieve mental and physical fatigue, reduce tension and anxiety, and calm the nervous system. It can, on the contrary, also be used to activate/ stimulate the system.

Aromatherapy restores the harmony of body and mind by working with the sense of touch and smell.

Objects needed in order to make aromatherapy treatment possible: (Figure 74)

- o essential oils
- o vaporizers
- o bulb rings
- o incense
- o candles

Suitable aromas, only one aroma per room, will be provided throughout the building. These aromas will be generated from bulb rings around globes or through room vaporisation.

Certain moods or atmospheres can also be additionally created, by combining aromatherapy with specific lighting and music.

It is also planned to plant fragrant plants in the courtyard. (see *Therapeutic Garden*).

Animal-Assisted Therapy (AAT)

AAT is a goal-directed intervention in which an animal is an integral part of the treatment process. (www.deltasociety.org) A change in the patient is attained through his/her interaction with an animal, through which a special emotional bond is formed. AAT aims to improve physical, social, emotional and/or cognitive functioning. Therapy can be on an individual basis or via group therapy (Standards of Practice for Animal-Assisted Activities and Therapy).

By feeling the animal the patient, possibly blind or abused, has a deeper sensory experience that evokes delight, education and motivation. The patient's own pets or animals from the zoo, such as horses, elephants, cats, dogs and rabbits, can be used during therapy sessions. A blind person's guide dog is always available to them and a strong interdependent relationship is formed.

Animal-assisted therapy is especially suitable for abused people, as animals are non-threatening to interact with and accept the person the way he/she is. Animals are non-judgemental and forgiving. People confide in them. The aim is for patients to overcome their fears, distrust and loneliness and to improve their self-esteem. The physical contact with animals helps healing physically or sexually abused patients. A psychological benefit has also been identified, where heart rate and blood pressure were lowered during therapy. Even watching fish swim has a calming effect on the viewer.

Furthermore, animal-assisted therapy improves fine motor skills, sequence events and coordination. The therapy evokes a sense of oneness with life and nature and a sense of spiritual fulfilment sustaining life.

Animal-assisted therapy is a health/human service profession carried out by occupational therapists, teachers, nurses, social workers, speech therapists, etc.

Necessities for animal-assisted therapy include: (Figure 74)

- o leashes, brushes, tables
- o drinking water
- o cubicles for individual animals
- o outside area for when the animal's nature calls
- o storage space
- o animal-washing facilities
- o food storage
- o informal gathering space



Therapeutic Garden

Also called 'healing gardens', therapeutic gardens serve as a remedy for positive outcome. By viewing nature, the amount of time it takes and the amount of pain medication a patient uses to recover may be reduced (ASLA Therapeutic Garden Design. V3, Nr. 1: Spring 2002). A therapeutic garden is at its best when it tells stories or enables stories to be told.

A therapeutic garden is especially helpful to the depressed, frustrated, angry, abused and troubled patients. By planting their own plants, patients experience a sign of life. They watch, with excitement, the growth of life, through which the patients gain a sense of purpose, and learn to nurture life and create beauty. Important lessons about protecting and persevering life are learnt and can be related to their own lives. A sense of responsibility, attention to detail, the following of directions and concentration can be learnt on an individual basis or via group work.

April Brunning (2002), a landscape designer states, "The exposure to nature can be instrumental in healing the weakened mind, body and soul. Through mentally, physically and spiritually damaged patients, I witnessed the powerful healings of our natural environment."

By viewing a garden or working in it, stress is reduced, satisfaction improved, blood pressure lowered and a generally better health outcome is ensured. (<http://www.alzinfo.org>)

The garden can be shaped through the inclusion of, for example, a fishpond, vegetables that bear fruit, flowering plants, etc. Elements of a Zen garden can be incorporated, as the sand and its brushed lines have an effect on the human psyche. Herbs, often resulting in a fragrant garden, can also be included. These

herbs can be eaten or made into tea, stimulating the sense of taste. The fragrance of the herbs will also link up with the inhaled aromatherapy experiences. (Figure 61)

Bibliotherapy

Bibliotherapy can be defined as the use of books to help people solve problems. It is a technique for structuring interaction between a facilitator and a participant based on mutual sharing of literature.

The idea of healing through books can be traced back to the days of the first libraries in Greece. The purpose behind bibliotherapy is firstly, to rebuild thought structures. Secondly, the aim is to refocus the emotions and thirdly, it aims to redirect the will (Aiex 1993: 2).

Therapy can take place on an individual basis or through group work, depending on the situation. After having read a specific book, follow-up discussion times will be offered, where questions will lead the patient from literal recall of information through interpretation, application, analysis, synthesis, and evaluation of that information. Evaluation will lead the participants toward closure, where the practitioner's evaluation, together with the individual's self-evaluation leads to a conclusion.

Group discussions can be a powerful vehicle for helping to heal emotional problems. The group approach enhances the child as a whole and allows members to share common experiences, thus lessening anxieties. Group discussions can create a feeling of belonging and can also provide security for individuals who might feel uncomfortable in situations where they are singled out for special attention. Working in a group may lead to an individual developing a different perspective and a new understanding of the problems of others.

Educators have begun to recognise the increasingly critical need for delivering literacy instructions to at-risk children, such as those dealing with divorce, peer group pressure, alcohol and drug abuse, and the homeless and their families.

Bibliotherapy, together with the group discussions, will be offered in the library, where reading material will be made available. Space for individual reading is on hand, while this space can be easily transformed for group work. In addition, individual reading space or group work can flow out into the courtyard. (Figure 61)

3.2 SENSORY INTERACTION (SI)

Due to a neurodevelopment problem, children or adults may have trouble functioning in daily life and interacting successfully with the world around them. A dysfunction in sensory integration may be a significant contributor to this behaviour. Most children are out of sync some of the time. Others, however, are out of sync most of the time (Kranowitz 2003: 2).

SI is the normal neurological process of organising sensations for use in everyday life. Typically, our brain receives sensory information from our bodies and surroundings, interprets these messages, and organises our purposeful responses. Most people can name our five senses: vision, hearing, smell, taste and touch (Kranowitz 2003: 3). In fact, we have several other vital senses. According to the research of A. Jean Ayres, O.T.R., who formulated the theory of SI, the essential sensory systems include:

- The tactile sense, where the skin surface receives information regarding texture, temperature, shape and size of objects. It

informs us whether we actively touch something or are passively being touched.

- The vestibular sense provides information through the inner ear regarding gravity and space, balance and movement, and our head and body position in relation to the surface of the earth.
- The proprioceptive sense gives information through our joints, muscles and ligaments about where our body parts are and what they are doing.

Dysfunction in sensory integration (DSI) occurs when the brain inefficiently processes sensory messages coming from a person's own body and his / her environment. The person has difficulty responding in an adaptive way to everyday sensations that others hardly notice or simply take in their stride. Generally, the symptoms of DSI are unusual response to tactile, vestibular and proprioceptive sensations (Kranowitz 2003: 4).

Children with DSI often do not feel safe. When they attempt to meet ordinary challenges, their responses may be inefficient and clumsy (Kranowitz 2003: 7). For a child, purposeful activities include swinging, climbing, jumping, buttoning, drawing and writing. Children need to be moving and playing outdoors, where they can inhale fresh air. Fresh air encourages healing and endorphins to protect against viruses and other bugs. Many children's activities are best performed on the grass.

A child responds favourably to SI treatment because it helps him/her to learn to succeed — and he/she loves it! (Kranowitz 2003: 8).

Each sense will now be explained. An activity or activities to stimulate the specific sense will follow thereafter. The activities are aimed at the age group of three years and older. A therapist chooses which of the activities would be suitable for the therapy goal. In so doing, the exact location of activities may vary.

The Tactile Sense (Touch)

The tactile system plays a major role in determining physical, mental and emotional human behaviour. From infancy onwards everyone needs steady tactile stimulation to keep organised, to continue functioning and to stay healthy.

We obtain tactile information through sensory receiving cells called receptors in our skin. Touch sensations of pressure, vibration, movement, temperature, itch and pain activate tactile receptors. The ability to process tactile sensations effectively is very important, not only for visual perception, motor planning and body awareness, but also for academic learning, emotional security and social skills (Witthaus: 3).

Feeling shapes

Necessities: Clean dry sand, little toys or objects, tray or sand pit.

Objects need to be hidden in and under the sand. The child then needs to feel in between the sand to find the objects and the identify them by feeling the shapes. This game can be done blind-folded and can work on a score system. (Figure 29)

Other activities include dramatic dress-up or play dough (Kranowitz 2003: 30). This activity would take place in the sand pit along the edge of the courtyard.



Figure 29: Feeling Shapes Activity

The Vestibular Sense (Balance and Movement)

The vestibular system is the unifying system, giving us a sense of where we stand in the world. Movement and gravity stimulate the special receptors in the little vestibule of the inner ear. The vestibular system takes in messages about balance and movement from the neck, eyes and body, and sends the messages to the central nervous system for processing. It then helps to generate muscle tone that allows us to move smoothly and efficiently (Kranowitz: 60). Our vestibular sense is the most primal and powerful sense and thus, it is the one we must address with the highest caution (Kranowitz 2003: 62).

T-stool

Necessities: Two sections of wood, one for a seat and the other for the leg, and two long wood screws. (Figure 30)

The child or adult sits on the t-stool while listening to a story or some music. When listening to the music, rhythmic and musical games can be played in order to acquire the sense of balance. The activity also improves body awareness and postural stability.

A trampoline or any other balancing activity can also be used (Kranowitz 2003: 63). This activity could be incorporated into music therapy or could be done as a fun activity while attending art therapy.



Figure 30: T-Stool Activity

The Proprioceptive Sense (Body Position)

Proprioception refers to sensory information telling us about the position, force, direction and movement of our own body parts. It helps to integrate tactile and vestibular sensations. Receptors for the proprioceptive sense are in the muscles, joints, ligaments, tendons and connective tissue. Proprioception, the 'position sense', sends messages about whether the muscles are stretching or contracting, and how the joints are bending and straightening.

Proprioception is the great organiser of all sensations (Kranowitz 2003: 74).

Crash pad

Necessities: Crash pad, large dog bed or mattress. (Figure 31)

The crash pad needs to be placed in the middle of the floor in an open space. The patient can leap from a higher object onto the crash pad, he/she can sprawl and roll in it, or they can nap on it. The jolt of landing on a crash pad provides deep pressure to muscles and joints, which is strong in proprioceptive input. Vestibular stimulation takes place when leaping towards and rolling on the crash pad. Rubbing against the fabric also provides tactile sensation (Kranowitz: 76).

Occupational therapy makes great use of art therapy while carrying out activities. The crash pad activity, for example, would be integrated into the art therapy room or could be performed outside on the lawn in the courtyard.



Figure 31: Crash Pad Activity

The Visual Sense (Seeing)

Vision is a complex process that enables us to identify sights, to anticipate what is coming at us and to prepare for a response. Vision should not be confused with eyesight (Kranowitz 2003: 89).

Eyesight contributes to our basic visual skills, called oculomotor (eye movement/motor) skills. As the child matures and integrates information from the other senses, especially the vestibular sense, more refined visual-spatial processing skills evolve.

Flying beanbag

Necessities: Two clean plastic bottles, with a section cut out of the bottles to form a scoop, scissors, beanbags. (Figure 32)

Toss a beanbag back and forth with the scoops. This game can be played outdoors or in a spacious room. As a variation, the non-dominant hand can be used to wield the scoop. A variety of balls can also be tossed back and forth. Playing the game reinforces eye-hand-foot-body coordination, visual tracking and depth perception. It further more strengthens balance, proprioception,

force, gross motor control, motor planning and midline crossing. The flying beanbag activity would be perfect for an outside activity. As the therapy rooms are large and spacious, the activity can also be carried out inside.



Figure 32: Flying Beanbag Activity

The Auditory Sense (Hearing)

Audition, or hearing, is the ability to receive sounds. We are born with this basic skill. We cannot learn how to do it; either we hear or we don't. The ability to hear does not guarantee, however, that we understand sounds. We are not born with the skill of comprehension; we acquire it as we integrate vestibular sensations. Gradually, as we interact purposefully with our environment, we learn to interpret what we hear and to develop sophisticated auditory processing skills (Kranowitz 2003: 100). The calls and songs of wild birds offer a symphony of sound. This activity may be particularly attractive to children with poor vision and superior hearing.

Bird calls

Necessities: Paper, pencil, and a list of birds indigenous to Pretoria and their distinctive calls.

Go outside together and listen for bird calls. On the list check the birds you hear. Also, make a note of other birds and their distinct sounds and environ-

mental sounds. Listening for specific sounds improves auditory discrimination and figure-ground. Matching sounds with sights integrates auditory and visual sensations (Kranowitz: 178).

The zoo, adjacent to the centre, contains many birds. The activity could, therefore, be planned as a tour, stretching into the zoo. (Figure 33)



Figure 33: Bird Calls Activity

The Olfactory Sense (Smelling)

Smell isn't what it used to be. Millions of years ago, creatures depended heavily on smell to survive. Today, smell plays an important part in establishing and reviving memories. When we smell something, the olfactory stimulus links directly to an ancient structure in our brain, called the limbic system. Our response to familiar smells is immediate (Kranowitz: 185).

The Gustatory Sense (Tasting)

Like all the senses, taste helps us to survive and provides us with essential information, such as bitter, salty, sweet and sour flavours. We spit out what our gustatory sense informs us may be harmful.

Smell and taste are intertwined. In fact, about 75% of taste perceptions depend on an efficient sense of smell. DSI may affect smell and taste. Undersensitivity or oversensitivity to smells and tastes often interferes with a child's eating

habits and nutrition (Kranowitz: 185).

Smell and tell

Necessities: Several strong scent producers (essential oils), open and closable containers. (Figure 34)

Generally alerting scents such as basil, burnt candlewick, chocolate, coffee, dirt, garlic, lemon, orange, mint or peppermint, oregano, pencil shavings, rubber, vinegar.

Generally calming scents such as aftershave, almond extract, apple, banana, butter, chamomile, cinnamon, crayons, hand lotion, lavender, lily of the valley, pine needles, soap, vanilla extract (Kranowitz: 187).

Pick up a pinch of something from the tray and offer it to the client. This activity is not are place specific. Therefore, this activity could be carried out in any of the therapy rooms, the main kitchen, or the courtyard, and could become integral to aromatherapy.



Figure 34: Taste and Tell Activity

3.3 COLOUR AND HUMAN RESPONSE

A historical background

Early man had a wonderful sense of colour. This can be seen throughout the world, already having started in the ancient times of cave drawings. In Birren's book, the assumption was made, that early man somehow needed beauty in his life and was inspired to surround himself with charming colour in all art forms – architecture, painting, decoration, sculpture, textile, ceramics, jewellery and cosmetics.

All civilisations have worshipped the sun, and from the sun came light and colour. Early man's main colours were red, gold, yellow, green, purple, white and black (Birren 1978: 1).

Colour has a different meaning for many different culture groups. For the purpose of this dissertation, a general meaning of colour is taken.

The biological response of humans to (coloured) light

Dr Thomas R.C. Sisson wrote, "Light does not merely lend illumination to human existence, but exerts a powerful physical force. This affects many compounds within the body, some metabolic processes, the life and generation of cells – even the rhythms of life." Visible light penetrates into the animal and human muscle and tissue. Light also reaches the temporal lobes and the hypothalamus of human beings. The temporal lobe and the hypothalamus are responsible for the limbic system (emotions, motivation, memory and attention) and movement, co-ordination and balance, respectively. Both respond naturally in a favourable or an unfavourable ways, depending on the need. It is important to have the right rhythm between the amount of light and dark (Birren 1978: 21). Too much of either one can be harmful to bodily functions.

According to Birren, most artificial environments today expose people to unbalanced light sources. Incandescent light almost completely lacks ultraviolet wavelengths. The glass tubes of most fluorescent light fixtures absorb and screen out ultraviolet. Some mercury sources are rich in ultraviolet but lack red and infrared frequencies. M. Luckiesh points out that yellow-coloured lights have the widest product selection. Yellow light is without deviation and is psychologically pleasing. In a tungsten lamp, where blue and violet are filtered out, the visual perception still remains relatively constant. It therefore follows that, as far as visual perception is concerned, yellow has definitive advantages (Birren 1978: 35)

C. E. Ferree and Gertrude Rand favour yellow the most, followed by orange-yellow, yellow-green and green. Blue makes it very difficult for the eye to focus and results in objects appearing blurred and being surrounded by halos. Red illumination has been widely used for instrument panels in airplanes, and for control rooms on ships and submarines.

Natural light, i.e. daylight, changes from morning to noon to evening, from pink and orange to yellow, white, and blue and then back again to the warm hues of sunset. A. A. Kruithof noted that at low levels of illumination the world appears 'normal' in a warm tint of light. As illumination increases in intensity, cooler light is needed to give normal appearance. Candlelight, real or imitated, is famous for its cosy, friendly, and intimate atmosphere.

The majority, when placed in a bright, harmonious setting, will have their spirits lifted. Felix Deutsch, a physician, did creditable research on the emotional effects of coloured light.

He summarised his colour studies as follows:

Colour and light stir a reflex action upon the vascular system, even if only through feelings and emotions. The emotional excitements, which are recognised through changes in blood pressure, pulse-frequency and rhythm, are evoked by association. For example, green may recall nature etc. These associations lead to deeper lying memories, which explain the affective emphasis of the attitude towards coloured light. Colour in itself, inclusive of all colours, is psychologically therapeutic. "The psychic process which is brought into play here is easily stated: the coloured light changes the environment. Through the changed appearance of the environment the individual is lifted out of reality. He is on the road to recovery, being helped along by his own mental and emotional processes." (Birren 1978: 46-7).

The Emotional Response to Colour

Most have already noted how moods change from summer to winter, from sunny weather to rainy weather, from ugliness to beauty. Reactions to colour are equally depressing or inspiring.

Colour is not a cure, but it serves a purpose in helping to inspire an agreeable mood in human beings.

Visual comfort requires constant change and variety. People require varying, cycling stimuli to remain sensitive and alert to their environments.

"Where there's no change, a state of 'sensory deprivation' occurs; the capacity of adults to concentrate deteriorates, attention fluctuates and lapses, and normal perception fades. In infants who have not developed a full understanding of their environment, the whole personality may be affected, and readjustment to normal environment may be difficult," according to M. D. Vernon (Birren 1978: 97).

Vernon explains how to apply colour:

Lighting: Artificial light should preferably be neutral and slightly warm in quality. It would be even better if a balanced amount of long wave UV could be added (Birren 1978: 105).

Brightness: Except for ceilings, white or off-white should not be used on walls where groups of people are assembled. High environmental brightness not only limits seeing, but also causes muscular fatigue. A continual exposure to high brightness may even damage the eye. Severe differences in brightness should also be avoided as the eye experiences tiring muscular adjustments (Birren 1978: 105).

Colour reactions: If colours such as red and orange tend to increase blood pressure, pulse rate, and other autonomic functions, the stimulation will be temporary, after which response may drop below normal. On the contrary, if blue tends to cause retardation, the later response will be above normal. From these observations, it is clear that a constant change in sequence is necessary to actively maintain physiological and psychological colour reactions. This constant change in sequence is exactly what will prevent sensory deprivation (Birren 1978: 105).

End-wall treatments: The use of a white or off-white colour has been very successful in treating ceilings, while light to medium-light colours should be used on floors and furnishings or equipment. Medium or medium-deep accent colours can be applied to end walls, excluding window walls. The warmer colours may be used on northern or eastern exposures, rest and recreation areas and food service. Cooler colours should be used in workspaces. By varying the treatment of the human eye and a person's mood, the joy of colour will keep spirits high – with no danger of visual, physical, mental or emotional strain

(Birren 1978: 107).

Colour and safety: To keep people alert in areas where they may be exposed to dangers, colour has an extensive and highly practical use. Red is used for all equipment related to fire protection, for example fire extinguishers. Acute hazards, such as grinding wheels, are marked with orange. Yellow, or yellow and black striped bands are used to mark stumbling or falling hazards and road equipment. Blue has special application in signs or symbols to mark equipment that should not be operated without permission, for example boilers. Green is the colour of medicine and is used to identify first-aid devices such as medicine and first aid cabinets. Purple and yellow in a propeller symbol relate to extremely hazardous materials and devices associated with nuclear radiation, and black and white are reserved for mere instructional purposes, such as signs (Birren 1978:107).


The meaning of colour and its application

From the above information it can be ascertained, that all rooms should contain as much natural light as possible. Building walls, which are at present very closed up, should be opened up where possible in order to fill the interior with light. The colours and the quality of natural light will have an insurmountable effect on emotion, already leading to healing. Where natural lighting is limited or impossible, a yellow-coloured bulb should be inserted to ensure comfortable living. Furthermore, outside activities should be promoted, where possible.

Regarding colours, each room that houses a different function should possess its own colour in order to create its own suitable mood (Figure 75). When mentioning the colour of the room, it must be clear that this colour should be applied as accent colour. If the colour is overused, the space will be too dominant and will make people feel uncomfortable. All other rooms, which do not have a




theme colour, should be kept neutral, as described in *brightness* and *end-wall treatment* above.

 The two most commonly preferred colours, according to Birren, are red and blue. They usually relate to people with extroverted or introverted tendencies (Birren 1978: 120).

Red is the colour of fire and blood, and is, therefore, associated with energy, war, danger, strength, power and determination, as well as passion, desire and love. Red, as previously mentioned, stimulates metabolism, increases respiration rate, perspiration and appetite, and raises blood pressure. Red tends to promote images and text, making objects appear larger and closer. As an appetite stimulant, red is useful for promoting products associated with energy, such as drinks, cars, sports and games. Light red represents joy, sexuality, passion, sensitivity and love. Dark red on the other hand, stands for will power, rage, anger, leadership and courage (www.colour-wheel-pro.com/colour-meaning.html).


Red, as it is an energetic colour that increases appetite, can be used in the café. As the café lies on the cold and dark southern side of the building, it is crucial to use a strong, warm colour. Furthermore, the warm colour will encourage a chatty atmosphere.

 Brown becomes too low key when used broadly without texture or another colour to enhance it. It is useful in promoting food and outdoor products for work and play. Brown implies friendships, earth, home, outdoors, inexpensive, comfort, tranquillity, masculine, nurturing, sensuality and generosity. A reddish-brown symbolises harvest and autumn, and beige and tans display sophistication and neatness. Copper simulates passion, money goals, profes-

sional growth, business productivity and career moves. Lastly, coffee browns imply sophistication, richness, robustness and flamboyance.

Birren believes that more people dislike brown than like it. Brown is a colour of the earth and is preferred by people with down-to-earth, uncomplicated qualities. They are conservative and have a sense of duty and responsibility.


Brown-like colours will be used in the basement, where animal therapy is to take place. This space can be highlighted with green, resulting in an earthy environment, where the animals may also feel at ease. Brown shades are also practical for this space, as a great flow of traffic in and out, with or without animals, may easily leave the place dirty.

 Orange combines the energy of red and the happiness of yellow. Although orange is perceived as a warm colour, it is not as aggressive as red. It increases oxygen supply to the brain, encourages appetite, produces an invigorating effect and stimulates mental activity. It is associated with joy, sunshine and the tropics. Orange represents enthusiasm, fascination, happiness, creativity, determination, attraction, success, encouragement and stimulation. It is the colour of autumn and harvest. However, dark orange can mean deceit and mistrust (www.colour-wheel-pro.com/colour-meaning.html).

Orange is the social colour, cheerful, luminous and warm. It typifies people of desirable good cheer and with the unique ability to get along with anyone, rich or poor, brilliant or slow, high or low. Orange personalities are friendly, have a ready smile and a quick wit, and do not like to be left alone.


The dining hall will be filled with orange. Not only does orange increase appetite, but also it is a social and cheerful colour. To create and maintain a

harmonious environment amongst inhabitants is essential in order to strive for peace.

 Birren associates turquoise with Freud's narcissism and self-love. Turquoise types are mostly sophisticated, discriminating, have excellent taste, are well-dressed, charmingly egocentric, sensitive and refined. Both, those that like and dislike turquoise have a trait in common: both are sure to be self-centred.

Turquoise is equally popular with men and women. The colour is calming, emotionally healing, refreshing, sophisticated and stands for protection. When mixed with pink and lavenders, a feminine look is created. Light turquoise is feminine, while teal radiates sophistication (www.sibagraphics.com).


Calming, emotionally healing and protective are attributes well suited to music therapy. Turquoise is also equally popular with men and woman, thereby inviting everyone. A flowing, tranquil mood will aid creativity in the creation of music.

 Yellow stimulates mental activity, generates muscle energy and attracts attention – it is the colour most visible to the human eye. It has been shown that students who study in yellow rooms do better in exams. Cheerful yellow can be used to promote food, especially when combined with other fruit and vegetable tones. However, if overused, yellow can be disturbing and can promote anxiety. It is believed that babies cry more in yellow rooms. Yellow imitates the sun, intelligence, social energy, cooperation, optimism, honour, loyalty, betrayal, imagination, summer, hope and enlightenment.

Yellow types enjoy innovation, originality and wisdom. This type tends to be

introspective, discriminating and serious-minded about the world and the talented people in it.


The wet art room is to be located on the southern and eastern side of the building. Therefore, it might tend to feel a bit dark in this room. To counteract this and to add warmth and light, this room can use yellow as its dominant colour. In addition, yellow will attract attention from the street's side due to it being the colour which is most visible to the human eye. The street elevation will radiate a warm, welcoming atmosphere.

 Green lowers blood pressure, relaxes the nervous system, calms and soothes the mind, stimulates creativity, and is an appetite suppressant. Green is the most restful colour to the eye and can improve vision. Green is popular in most cultures. In addition, green stands for physical healing, abundance, fertility, hope, renewal, health, youth, jealousy, inexperience, growth, nurturing, calm, joy, love, balance and friendliness. Dark green resembles money, ambition, greed, jealousy, heaviness and prestige, and promotes concentration. Olive green is a reminder of peace.

Green is symbolic of nature, balance and normality. Those who prefer green are mostly socially well adjusted, civilised and conventional. They are suburban people, while orange types are urban. A dislike of green is only encountered occasionally and may indicate a degree of mental disturbance (Birren 1978: 122).


The proposed library will be facing the western sun. Green is an optimal colour to use here as it relaxes the nervous system and stimulates creativity. The atmosphere in a library should be peaceful, yet lively. Those who work there should feel that they are being efficient but they should not feel alone.



 Blue is the colour of conservatism, accomplishment, devotion, deliberation and introspection. It therefore goes with people who succeed through application, know how to earn money, make the right connections in life and seldom do anything impulsive. A dislike for blue may signal guilt or a sense of failure (Birren 1978: 123-4).

Some believe blue slows the metabolism and suppresses the appetite. As it does not require the eye to focus, images and objects recede to the background. If overused, blue creates a cold feeling. Although also popular with women, blue is the predominant favourite colour of men. Blue is the favourite colour of more than half of the world's population and it is the colour least disliked by most cultures. Combinations of light and dark blues can create a feeling of trust. Pale blue has a delicate, calming effect, and resembles health, healing, tranquillity, understanding and softness. As opposed to emotionally warm colours, blue is linked to consciousness and intellect. Blue is used to suggest precision when promoting high-tech products (www.colour-wheel-pro.com/colour-meaning.html).

Blue is the most suitable colour for the conference/workshop room as it slows the metabolism and is the favourite colour of half the world's population. Blue is the colour of accomplishment and devotion, attributes which are suitable to all the activities taking place inside this space. Trust is an important feeling to evoke, and, as the room faces the western sun, blue will help balance out the hot summer sun.


 Purple combines the stability of blue and the energy of red. Almost 75% of pre-adolescent children prefer purple to all other colours, making purple an effective colour in promoting children's products. Purple and violet are subtle colours and are, on average, seen as elegant. Excessive exposure

to purple, however, may cause people to become grim, withdrawn and ill at ease with their surrounding. Artists and firm culture lovers may like purple. Those who choose purple as their favourite colour are usually sensitive and have above-average taste.

Purple may also be a sign of influence, spiritual power, self-assurance, dignity, royalty, luxury and fame.

Lavender implies sexual indecision, malleability, romance, nostalgia and femininity. Dark purple expresses sadness, frustration, royalty and richness. Violet represents meditation, creativity, concentration, beauty, inspiration, artistry, music, love and responsibility (www.sibagraphics.com).

As purple is the colour most chosen by artists, the dry art room's theme colour will be purple. Art therapy will mostly be offered to children, therefore purple is appropriate as it is the favourite colour of 75% of children. As previously mentioned, purple enhances creativity, concentration and inspiration.

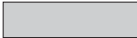
 White is associated with light, goodness, innocence, purity and virginity. It is considered to be the colour of perfection. White also means safety and cleanliness. It usually has the positive connotation of a successful beginning.

In advertising, white is associated with coolness and cleanliness as it is the colour of snow. It is also associated with hospitals, doctors and sterility. White rooms can be uncomfortable, with a stark atmosphere, but white is useful as a background colour as it highlights the other colours. The eye perceives white as a brilliant colour

(www.colour-wheel-pro.com/colour-meaning.html).

White will not be used as a main room colour, but will be used as an effective

colour for highlighting, branding, crockery, etc.

 Silver can be used, together with other colours, to create a high-tech look. To promote a feeling of control and power, silver can be combined with gold and white. Silver is a reflector and, therefore, is very eye catching. It is and associated with life-giving water as well.

Silver is glamorous, stands for modernity, the distinguished, the industrial, dreams, female power and sleekness (www.sibagraphics.com).

Silver is appropriate for the kitchen, which is situated in the north. The life-giving association of silver suits the kitchen. A sophisticated, sleek look will further complement the hygiene of a kitchen.

Due to the carefully chosen colours, someone walking through the rooms will be automatically affected in a therapeutic manner. Thus, therapy already begins even before an actual therapy session starts. By applying the appropriate colour for each therapy room, each specific therapy, for example art therapy, will be further enhanced.

