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Postgraduate Certificate in Visual Impairment and Occupational Therapy

## Functional Vision and Activities of Daily Living

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### Functional Vision:

Functional vision refers to the ability to use vision to perform daily activities. It encompasses a range of visual skills that are necessary for independent living and engagement in various tasks. Individuals with visual impairments may have challenges with functional vision due to limitations in visual acuity, visual field, contrast sensitivity, color perception, and other visual functions.

### Activities of Daily Living (ADLs):

Activities of Daily Living (ADLs) are essential self-care tasks that are necessary for day-to-day functioning. These activities include tasks such as bathing, dressing, grooming, eating, toileting, and mobility. For individuals with visual impairments, performing ADLs may require adaptations, assistive devices, and training to ensure independence and safety.

### Visual Acuity:

Visual acuity refers to the sharpness or clarity of vision. It is typically measured using an eye chart and is expressed as a fraction (e.g., 20/20). Normal visual acuity is 20/20, which means that a person can see at 20 feet what a person with normal vision can see at 20 feet. Visual impairment is categorized based on visual acuity, with categories ranging from mild to profound.

### Visual Field:

Visual field refers to the entire area that can be seen when the eyes are fixed in one position. A normal visual field is approximately 180 degrees horizontally and 135 degrees vertically. Individuals with visual impairments may have restricted visual fields, which can impact their ability to detect objects, obstacles, and people in their surroundings.

### Contrast Sensitivity:

Contrast sensitivity is the ability to distinguish objects from their background based on differences in brightness. Individuals with visual impairments may have reduced contrast sensitivity, making it challenging to perceive details, textures, and patterns. Contrast enhancement techniques, such as using high-contrast colors or lighting, can improve visibility for individuals with low contrast sensitivity.

### Color Perception:

Color perception refers to the ability to differentiate between different colors. Some individuals with visual impairments may have color vision deficiencies, such as color blindness or reduced color discrimination. Adaptations, such as using color-contrast techniques or tactile markers, can help individuals with color vision deficiencies distinguish between colors for various tasks.

#### Visual Processing:

Visual processing involves the brain's ability to interpret and make sense of visual information received from the eyes. It encompasses various cognitive processes, such as visual attention, visual memory, visual discrimination, and visual-spatial skills. Individuals with visual impairments may experience challenges with visual processing, affecting their ability to navigate environments, recognize objects, and complete tasks.

#### Visual Rehabilitation:

Visual rehabilitation is a multidisciplinary approach aimed at maximizing the functional use of vision in individuals with visual impairments. It involves assessment, intervention, and training to enhance visual skills, improve visual functioning, and promote independence in daily activities. Visual rehabilitation may include low vision aids, orientation and mobility training, adaptive devices, and environmental modifications.

#### Low Vision Aids:

Low vision aids are devices and tools designed to assist individuals with visual impairments in utilizing their remaining vision effectively. These aids can include magnifiers, telescopes, electronic magnification devices, reading stands, and glare filters. Low vision aids help individuals with low vision perform tasks such as reading, writing, cooking, and recognizing faces.

#### Orientation and Mobility:

Orientation and mobility (O&M) training is a specialized program that teaches individuals with visual impairments to navigate their environment safely and independently. O&M training includes techniques for orientation (knowing where one is in relation to surroundings) and mobility (moving through the environment). Skills taught in O&M training include the use of auditory cues, tactile cues, landmarks, and assistive devices like canes or guide dogs.

#### Assistive Technology:

Assistive technology refers to devices, tools, and software that help individuals with disabilities perform tasks, increase independence, and improve quality of life. For individuals with visual impairments, assistive technology can include screen readers, magnification software, braille displays, speech output systems, and tactile graphics. Assistive technology plays a crucial role in enabling individuals with visual impairments to access information, communicate, and engage in various activities.

#### Braille:

Braille is a tactile writing system used by individuals who are blind or visually impaired to read and write. Braille consists of raised dots arranged in patterns that represent letters, numbers, punctuation marks, and symbols. Learning braille is essential for individuals with visual impairments to access written information, communicate effectively, and participate in educational and vocational activities.

#### Sensory Substitution:

Sensory substitution is a technique that involves using one sensory modality to compensate for deficiencies

in another sensory modality. For individuals with visual impairments, sensory substitution devices can convert visual information into auditory or tactile signals. Examples of sensory substitution devices include auditory maps, tactile graphics, and devices that convert visual text into speech.

#### Environmental Modifications:

Environmental modifications involve making changes to the physical environment to accommodate the needs of individuals with visual impairments. These modifications can include improving lighting, reducing glare, enhancing contrast, installing tactile markers, labeling objects in braille, and removing obstacles. Environmental modifications help create a more accessible and inclusive environment for individuals with visual impairments.

#### Functional Assessment:

Functional assessment is a process of evaluating an individual's ability to perform daily activities and tasks. For individuals with visual impairments, functional assessments focus on assessing visual skills, functional vision, ADLs, orientation and mobility, and other related areas. Functional assessments help identify strengths, challenges, and areas for intervention to support independence and participation.

#### Interdisciplinary Collaboration:

Interdisciplinary collaboration involves professionals from different disciplines working together to address the complex needs of individuals with visual impairments. In the context of visual impairment and occupational therapy, interdisciplinary collaboration may involve occupational therapists, orientation and mobility specialists, low vision specialists, teachers of the visually impaired, rehabilitation counselors, and other professionals. Collaboration ensures comprehensive assessment, intervention, and support for individuals with visual impairments.

#### Challenges and Barriers:

Individuals with visual impairments face various challenges and barriers in performing daily activities and accessing services. These challenges can include limited access to information, communication barriers, environmental obstacles, social stigma, lack of resources, and inadequate support services. Addressing these challenges requires a holistic approach that considers the individual's unique needs, preferences, and goals.

#### Empowerment and Independence:

Empowerment and independence are key goals in the rehabilitation of individuals with visual impairments. Empowerment involves promoting self-confidence, self-determination, and advocacy skills in individuals with visual impairments. Independence focuses on equipping individuals with the necessary skills, tools, and support to live autonomously and participate fully in society. By fostering empowerment and independence, individuals with visual impairments can lead fulfilling and meaningful lives.

In conclusion, understanding the key terms and vocabulary related to functional vision and activities of daily living is essential for professionals working with individuals with visual impairments. By recognizing the

challenges, utilizing assistive technology, providing training and support, and promoting empowerment and independence, individuals with visual impairments can enhance their functional vision, perform ADLs, and engage in meaningful activities to lead fulfilling lives.