A SURVEY OF PERSPECTIVE OF PERSONS WITH VISUAL IMPAIRMENT AND INSTRUCTORS ON ORIENTATION AND MOBILITY TRAINING : CASE STUDIES AT SKILLS DEVELOPMENT CENTER FOR THE BLIND AND THE SAMPRAN REHABILITATION AND VOCATIONAL TRAINING CENTER FOR BLIND WOMEN

VITHITA PRACHANUKUL

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Thesis
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Vithita Prachanukul

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ABSTRACT

The aim of this research was to survey the perspective of persons with visual impairment and to survey the Orientation and Mobility (O&M) instructors at Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women in the area of problems and needs of persons with visual impairment. The Research also aimed to survey their views on the objectives and advantages of O&M training for Visually impaired persons' lives and the applications of O&M training in their daily actions. The methodology used to conduct individual interview with 85 persons between the age of 15 and 45 years and a total of seven O&M instructors from both centers. The results show that 51.8 percent of persons with visual impairment attending both centers have never been introduced to the field Orientation and Mobility (O&M). On the other hand, 44.7 percent of them have received some kind of O&M training before. Among the persons with visual impairment, 54.1 percent have set goals of receiving O&M training when entering the centers. During the training, women had more problems traveling than men but had fewer problems in performing daily living skills when compared to men. Both genders wanted most to travel on their own but felt that assistance from other people is necessary under some circumstances. Protection Technique during traveling is most helpful for persons with visual impairment. After the training, persons with visual impairment feel more independent in performing their daily routines. Touch Technique is commonly used in their daily lives.

The survey results of instructors revealed that all of them agree that persons with visual impairment need O&M training to enable them to travel properly and safely with normal gait and posture. At the same time this would boost their self-confidence and independence in society.

KEY WORDS: ORIENTATION AND MOBILITY/ PERSONS WITH VISUAL IMPAIRMENT/ BLIND/ PERSPECTIVE

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การสำรวจความคิดเห็นของคนพิการทางการเห็นและผู้สอนเกี่ยวกับการฝึกทักษะความคุ้นเคยกับสภาพแวดล้อมและการเคลื่อนไหว : กรณีศึกษาศูนย์พัฒนาสมรรถภาพคนตาบอด และ ศูนย์ฝึกอาชีพหญิงตาบอดสามพราน (A SURVEY OF PERSPECTIVE OF PERSONS WITH VISUAL IMPAIRMENT AND INSTRUCTORS ON ORIENTATION AND MOBILITY TRAINING : CASE STUDIES AT SKILLS DEVELOPMENT CENTER FOR THE BLIND AND THE SAMPRAN REHABILITATION AND VOCATIONAL TRAINING CENTER FOR BLIND WOMEN)

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บทคัดย่อ

การศึกษาวิจัยครั้งนี้มีวัตถุประสงค์เพื่อสำรวจความคิดเห็นของคนพิการทางการเห็นและผู้สอนทักษะความคุ้นเคยกับสภาพแวดล้อมและการเคลื่อนไหว ณ ศูนย์พัฒนาสมรรถภาพคนตาบอดและศูนย์ฝึกอาชีพหญิงตาบอดสามพราน เกี่ยวกับปัญหาและความต้องการจำเป็นของคนพิการทางการเห็น วัตถุประสงค์ในการฝึกทักษะความคุ้นเคยฯ ประโยชน์ที่ได้รับ และการประยุกต์ใช้ในชีวิตประจำวันของคนพิการทางการเห็น โดยใช้วิธีสัมภาษณ์คนพิการทางการเห็นที่มีอายุ 15–45 ปี เป็นรายบุคคลจำนวน 85 คน และผู้สอนทักษะความคุ้นเคยฯ จากศูนย์ทั้งสองแห่ง จำนวน 7 คนตอบแบบสอบถาม ผลการวิจัยพบว่าคนพิการทางการเห็นจากศูนย์ทั้งสองแห่งร้อยละ 51.8 ไม่รู้จักทักษะความคุ้นเคยฯ มาก่อน ผู้ที่รู้จักและเคยได้รับการอบรมทักษะดังกล่าวมาก่อนแล้วก่อนเข้ารับการฝึกอบรมที่ศูนย์ร้อยละ 44.7 โดยร้อยละ 54.1ตั้งวัตถุประสงค์เกี่ยวกับการฝึกทักษะความคุ้นเคยฯ ก่อนเข้ารับการฝึกที่ศูนย์ ในขณะฝึกทักษะเพศหญิงมีปัญหาด้านการเดินทางมากกว่าเพศชาย แต่มีปัญหาในการดำรงชีวิตประจำวันน้อยกว่า ทั้งเพศชายและเพศหญิงส่วนใหญ่ต้องการเดินทางด้วยตนเองโดยจำเป็นต้องพึ่งพาผู้อื่นช่วยเหลือในบางสถานการณ์ รายวิชาการป้องกันตนเองเป็นประโยชน์แก่คนพิการทางการเห็นมากที่สุด ภายหลังการฝึกทักษะรู้สึกเป็นอิสระมากขึ้นในการทำกิจวัตรประจำวัน ส่วนเทคนิคที่ใช้ในชีวิตประจำวันส่วนมาก คือการสำรวจพื้นผิวถนนด้วยไม้เท้า

ผลการสำรวจผู้สอนพบว่าทุกคนสนับสนุนว่าคนพิการทางการเห็นจำเป็นต้องได้รับการฝึกทักษะความคุ้นเคยฯ เพื่อให้เดินทางได้อย่างถูกวิธี ปลอดภัย ด้วยท่าทางที่เป็นปกติ ซึ่งจะช่วยเพิ่มความมั่นใจในตนเอง และมีวิถีชีวิตอิสระในสังคม

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CHARTER I
INTRODUCTION

Principles and Reasons

In Thailand, management of Enhancing competence of disabled persons is done according to the National Rehabilitation Plan B.E. 2540-2544. Directions of rehabilitation in medical, educational, vocational and social measures have been provided by related government agencies and private sectors. The first special education service for persons with visual impairment in Thailand began in B.E. 2482 by Foundation for the Blind in Thailand Under the Patronage of H.M. the Queen. It has established Bangkok School for the Blind following the advice of Miss Genevieve Caulfield, an American lady with visual impairement who taught the visually impaired and guided teachers about a special teaching method for persons with visual impairment. Also, she has proved that persons with visual impairment have the same ability as anybody in the society.

Apart from vision loss, persons with visual impairment may have mental and social problems. Visual disability causes restrictions that are barriers to living one's life depending on the degree of disability. Where attitude is the main factor, children with visual impairment who receive appropriate care and treatment from parents and their society. While growing up will lessen the disability-related problems and obstacles. For people to have positive and right attitudes towards persons with visual impairment or for persons with visual impairment to have positive attitudes towards themselves and others depends on their learning opportunities and experiences received directly and indirectly (Kanittha Dhevinpukdi, B.E. 2540 : 101).

Rehabilitation is another method to provide visually impaired with appropriate treatment. Apart from physical rehabilitation, they can have mental, emotional, and social rehabilitation, resulting in their quality of life in the society that is equal to the general public. Rehabilitation process of persons with visual impairment must consist of learning of necessary skills such as self-hygiene care, communication, traveling,

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social, and so on. These skills will be basis to help them to become more self-confidence.

Nowadays, disabled people demand more social roles in terms of their ability, rights and freedom that they are entitled to including improving themselves by making a living and taking care of daily task to reduce the burden from family and society.

As the society is developed in the area of technologies, communications, and architectures, people generally develop their skills according to the trends. Both disabled people and general publics aware that the disabled have the same ability as everyone else. With rehabilitation, they can live in the society and perform activities independently the same as everyone, only that they use different method such as aids and devices for each individual according to the disability.

Purposes of skills training for persons with visual impairment aim at activities of daily living (ADL) skill in order to live independently and they can integrate themselves in learning and living well in the society. Dr. Kenneth Jernigan, the 20th century visually impaired philosopher, supported the above statement. He stated that real problems of persons with visual impairment is not the sight but the misunderstanding of general public and persons with visual impairment as well as lack of correct information that leads to independent living. In order to obtain independent living, travel skill training for persons with visual impairment is one of an important skill to develop (Nuchanard Todee, et al., B.E. 2544 : 2). Besides traveling independently, Mr. Monthian Buntan (B.E. 2542 : 5-7) has suggested that training skills required for persons with visual impairment are Braille reading and writing-English/Thai, typing-English/Thai, computer basic skill, handling of own ADL, social participation, and self-confidence.

A travel skill for persons with visual impairment, technically known as Orientation and Mobility (O&M), enables them to conveniently, quickly, gracefully, safely, and independently (freely) travel to both familiar and unfamiliar environments with efficiency (Chalam Yam-iam, B.E. 2542 : 6). Therefore, O&M principles and methods are very useful for persons with visual impairment's lives because they can be directly and indirectly adopted and can also be applied to another skill, such as ADL, which eventually will lead to the independent living. For these reasons, many countries pay special attention to and produce O&M instructors as well as develop

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standard curriculums that can be applied to local environments and are suitable for persons with visual impairment's living conditions.

In Thailand, O&M Skill Curriculum Drafting Project has been initiated under the cooperation of private and public sectors. But it's yet to be completed. A study on "Perspective of Persons with Visual Impairment and Instructors on O&M Training" will yield knowledge about persons with visual impairment's current needs and problems, O&M applications, and their attitudes towards independent living so as to be a guideline for development of a suitable curriculum and measures can be set up to prevent existing/possible problems. With this concept, the researcher has chosen to study the perspective of persons with visual impairment and O&M instructors at Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women which are under Foundation for the Blind in Thailand Under the Patronage of H.M. the Queen. These centers are chosen because they are not very far from Bangkok, privately run, and they use the same curriculum, known as the O&M (Cane Techniques) B.E. 2538 curriculum which belongs to Skills Development Center for the Blind. The first center accepts only male visually impaired students whereas the latter accepts only the female. Selecting these two centers as a case study will bring about thorough information both from men and women.

Objectives of the Research

1. To survey perspective of persons with visual impairment and O&M instructors at Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women about O&M training, its advantages, and its application to the visually impaired daily lives.

2. To study perspective on problems and needs about O&M of persons with visual impairment at Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women.

Questions of the Research

1. Prior to the training, had the persons with visual impairment set their objectives about O&M training in any way?

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2. During the O&M training, how do persons with visual impairment specify their travel and living problems and needs?

3. After the O&M training, what are the benefits that persons with visual impairment think they have got?

4. How much do persons with visual impairment think they can apply O&M knowledge to their daily living?

5. What do O&M instructors think about the result that visually impaired persons obtained from learning, living, and independent living?

Preliminary Agreement of the Study

Persons with visual impairment and O&M instructors at Skills Development Center for the Blind, and the Sampran Rehabilitation and Vocational Training Center for Blind Women are treated, by the researcher, as the population who has provided information through the interview and has given correct and sincere answers in the questionnaire according to the purpose required.

Scope of the Research

The population in this study consist of 57 males with visual impairment who have received O&M training for at least three months at Skills Development Center for the Blind, and 28 females at the Sampran Rehabilitation and Vocational Training Center for Blind Women including O&M instructors at these two centers.

Definitions

Persons with Visual Impairment According to Ministry of Public Health Regulations No. 2 (B.E. 2537) which is based on Rehabilitation of Disabled Persons Act B.E. 2534 defines visual impairment as “An individual whose better eye, after using regular eyeglasses, is able to see less than 6/18 or 20/70 downward until unable to see any light, or an individual who has a visual field of less than 30 degrees.” This research refers to persons with visual impairment at Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women.

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Orientation and Mobility instructor is one who teaches O&M to persons with visual impairment. Here, it refers to the instructor at Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women as well as ones who have taught this subject before.

Orientation and Mobility (O&M) refers a skill that teaches persons with visual impairment how to move or travel independently and safely from one place to another by techniques of using cane and sighted guide.

Activities of Daily Living (ADL) refers to skills for performing activities that are daily routines of most people namely personal hygiene, house cleaning, communication, travel in the community, social manner, expenses management, and etc.

Independent Living (IL) refers to an act of living that allows a person to make a decision by his/herself, have courage to confront and tackle his/her problems, and take responsibility for his/her choices by accepting help from the society as it should be under the Thai society's cultural and traditional frame.

Expected Outcomes:

1. Acquisition of perspective of persons with visual impairment on O&M training.
2. Acquisition of persons with visual impairment's present problems and needs for O&M skill.
3. Acquisition of guidelines for efficient development of O&M training courses that meets the persons with visual impairment's needs for their independent livings.

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CHAPTER II
LITERATURE REVIEW

This research works on Orientation and Mobility training perspective of persons with visual impairment at Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women. The researcher has studied related literatures, works, papers, articles, and textbooks to be used as guidelines as below:

2.1. Orientation and Mobility Skill (O&M) - Its Definitions and Significance

2.2. Orientation & Mobility Curriculum: Thailand and Other Counties

2.3. Orientation and Mobility Service Agencies

2.4. Related Researches

2.1. Orientation and Mobility Skill (O&M)

2.1.1. Definitions

Orientation and mobility (O&M) are variedly defined by many scholars in this area as follows:

Bonny Dodson-Burk & Hill (1989 cited by Chalam Yam-iam, B.E. 2542a : 5) defined Orientation is an act of knowing where one is, where one is going and how. Mobility is an act of moving from one place to another.

Robert C. Jackle (1993 cited by Chalam Yam-iam, B.E. 2542a : 5) referred Orientation as to learn how to travel safely and independently to each destination without getting lost and to enable persons with visual impairment to perform their daily life activities.

William Allen, et al. (1977 : xx) “Orientation may be defined as a process in which the student uses his residual senses to relate himself to his environment. Mobility is a process by which he moves safely within an environment.”

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Bruce B. Blasch, William R. Wiener, and Richard L. Welch (1997 : 1-2) “Orientation and mobility is an essential basic skill for an individual development because independent movement urges a person to try to show the society that he can move independently in the society the same as anybody as to gain their acceptance.”

Everett Hill and Purvis Ponder (1976 : 3) “Orientation is the process of using the senses to establish one’s position and relationship to all other significant objects in one’s environment. For a blind individual, competency in developing an awareness of his surroundings is a result of concentration and practice over a period of training.”

Richard Webster (1980 : 15) “Orientation and mobility is that part of education that prepare the blind children to travel independently. Orientation refers to an awareness of one’s self in relation to the physical environment. It means knowing one’s current location. Mobility is the ability to travel safely, comfortably, gracefully, and independently.”

William H. Jacobson (1993 : 1) “Orientation is the ability to use one’s remaining senses to understand one’s location in the environment at any given time. Mobility is the capacity or facility of movement. Orientation and Mobility may be defined, then, as the teaching of the concepts, skills, and techniques necessary for a person with a visual impairment to travel safely, efficiently, and gracefully through any environment and under all environmental conditions and situations.”

Chalam Yam-iam (Nuchanard Todee, et al., B.E. 2544 : 7-8) stated that Orientation and Mobility is a process or approach to teach persons with visual impairment how to use their remaining senses such as part of their residual sights (a person with low vision), listening, touching, smelling including previous experiences to make them realize where they are, what their surrounding is, how they are related, and how they and their environment relates to one another so that they can travel conveniently, quickly, gracefully, safely, confidently, and independently to the desired destinations. This is called the efficient travel.

Suwimon Udom-piriyasak (B.E. 2538 : 41) referred Orientation and Mobility as a child’s ability to know his/her location in the environment and move safely and independently from one place to another.

To sum up, O&M is the skill that is taught and used to train persons with visual impairment on how to move or travel independently and safely from one place to

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another using a White Cane Technique and a Sighted Guide Technique which are the definitions used in this research.

2.1.2. Significance of O& M Training

Immobility may cause psychosocial problems and lead to hopelessness, hostility, and fear of the outside world. Welch's notion (Luengo, 1991 : 100-102; Welsh, In Blasch, et al., Eds., 1997 : 200-227) about psychosocial dimensions in terms of the Mobility and Adjustment is "…impossible to say which comes first, whether good adjustment to visual loss results in good mobility or whether the reverse is true. An interactive effect is likely to be closer to the truth, this is also true for the other psychosocial variables that we will consider. The interaction between successful orientation and mobility and the self-concept, feeling of independent, motivation for rehabilitation, the attitude of the family, and the ability to cope with people on the street is complex and reciprocal. A positive self-concept can be both a cause and effect of success in mobility. On the other hand, a negative self-concept can result from a lack of independent mobility or can make progress towards independent functioning more difficult. Similarly, a sense of independence can contribute greatly to a person's success in learning travel or can result from success in a particular mobility task. Excessive dependence, however, can hinder improvement in mobility or can be a by-product of the person's inability to move successfully. Such is the nature of psychosocial variables."

Loss of physical and mobility freedom is very important to persons with visual impairment. Not only it deprives them of their ability to move around their homes and communities, but also takes away their opportunity to work which can seriously create psychological problems. Without O&M training, children with congenital visual impairment may not be able to develop their concept as usual and may not truly understand the world around them (American Foundation for the Blind, B.E. 2531 : h).

Most learning occurs during the first 5 or 6 years of life, on which the uses of senses and motoric systems are focused. Children will receive information via their sensory systems and learn the form the mobility skill according to this information. They, then, begin to learn how to categorize it. Therefore, most O&M contents and instruction cover and connect with sensory awareness, image, physical concept, fine &

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gross motor activities, and conceptualization (Skellenger & Hill, In Blasch, et al., Eds., 1997 : 427-428). Those who have completed O&M training will be able to bring themselves to the environment. The training helps children's development skills as well. A good environment familiarization begins with developed sensory awareness to enable children with visual impairment to determine their "mobility" mind map to replace the use of their visions. Their minds must contain images displaying topographical maps and kinesthetic images. These can only be developed once they have practiced walking through space. The more movements and practices they make, the more the routes appears in their minds (Baldwin, n.d. : 4). As Hill (n.d. : 1) mentioned, O&M should be combined into one subject along with perceptual skills, concept development, motor development, and awareness of environments. The community should also understand the O&M teaching procedure in order to support the program.

As a summary, O&M training is essential for persons with visual impairment at different ages to learn and to develop problem-solving skill, through the process of sensory awareness, auditory development, body concept, motor development, gait and posture, concept development, social and emotional development, attitude towards self and work, and Independent Living. Details are as followed:

2.1.2.1. Sensory Awareness

Skellenger and Hill's suggested some ideas on how to assist young children and children with severe multiple impairments (Skellenger & Hill, In Blasch, et al., Eds., 1997 : 428) "…to become aware of, tolerate, and discriminate the sensory messages they receive before they will be able to make cognitive use of this information to assist travel. It is important that sensory information be verbally pointed out to the child and that the child be actively involved with visual, tactile, auditory and olfactory information which they will later experience and utilize during independent travel."

In order to develop the sensory awareness into independent mobility, it requires an integration of visual abilities and other residual senses. O&M instructors should focus on how to make them more alert and have their concept and interest gathered (Phadung Arayawinyu, B.E.2539: 83-84). Children need to learn how to

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touch, smell, and listen without visions as much as they can. At the beginning of the training, instructors need to pay special attention and concentrate on development of the entire sensory systems of a person to encourage him/her to safely and efficiently perform various activities within his/her environment (Barrera, 1991 : 271-272).

2.1.2.2. Auditory Development

While most people learn things through their visions, persons with visual impairment learn by listening. Therefore, auditory skills are very important for their abilities to distinguish the types of sound, its direction, distance to the origin, and sound level. Persons with visual impairment can identify sounds from different sources such as animal sounds, whether they are dangerous and how big they are, male or female voice, children or adults, fountain or waterfall, or a car accident, and so on. They would know the direction of that sound and how far it is from them. Sound will help persons with visual impairment to adjust themselves in each situation like reaching for the thing they want and escaping dangers (Chalam Yam-iam, B.E. 2540 cited by Nuchanard Todee, et al., B.E.2544 : 10).

Use of auditory perception provides sufficient information for visually impaired that followed by an advanced O&M learning. During the childhood, parents need to urge their children to perceive useful sounds around them by having listened repetitively to the sounds in children's normal surroundings, such as the refrigerator motor and the less familiar sounds such as a car passing through a tunnel or a flyover. Having learned different methods of sound usages such as walk to the sound, follow the origin of the sound simultaneously and non-simultaneously, walk to the origin of sound that occurs persistently and non-persistently (Skellenger & Hill, In Blasch, et al., Eds., 1997 : 429) are important basics for a child to grow up with self-independence.

2.1.2.3. Body Concept

Our body is both a learning receiver and a point of reference to understand the relationships between important objects available in the environment. It is very important for the preschoolers to clearly develop their body concept as a future

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learning basis (Skellenger & Hill, In Blasch, et al., Eds., 1997 : 428). There are four stages of body concept development:

1st Stage : Horizontal body, parts and mobility (in children without disability it is developed since 2-5 years of mental age: MA)

2nd Stage : Left-right distinction (MA 5-7)

3rd Stage : More complicated decision about body and body-object relationships (MA 6-8)

4th Stage : An indication of parts and relationships via another person's reference system (MA 8-9)

Barrera (1991: 269) proposed that children with visual impairment needed to use their body to explore and be encouraged to try the tactile exploration. They should have been allowed to move freely at young ages to start learning about themselves and their body images both in terms of abilities and limitations. The mobility and exploration are keys for visually impaired children's O&M development in the space that they are living in and they will be changed to different abilities to identify sound, shape, distance, concept of the spatial relationship.

Suwimon Udom-piriyasak (B.E.2537 : 3) supports the meaning of concept in terms of self-image. She suggested that everyone receiving O&M training must also receive self-concept, mobility, and every part of body function training. Also, persons with visual impairment must learn their environments and are able to make benefits of their familiarity with such environments by moving into them on their own. This development must be systemic and in steps so that those who are developed can understand and able to generalize it accordingly.

2.1.2.4. Motor Development, Gait and Posture

Most body image and physical learning data are received from gross motor mobility and patterns of the recurrent mechanism. The basic hypothesis about independent traveling noted by Skellenger (Skellenger & Hill, In Blasch, et al., Eds., 1997 : 428-429) is "…the ability to control and maintain gross motor activity, early gross motor practice is critical for later success."

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Development of four motor skills such as gait and posture, locomotion, tactile, and throwing and catching abilities are necessary for children with disabilities. Children with visual impairment are 4-5 months delay in these development. This is the cause of delayed motor development, disruption of body necessary skills, and readiness to learn (Barrera, 1991 : 269; Waree Tirajit, B.E.2537 : 27). Therefore, directions and mobility should be taught at all times while children with visual impairment are at school. Their parents and instructors should give them opportunities to walk around in their residents, classrooms, or ask them to do their activities within the school to develop their motor skill (Daranee Uthairattanakij, B.E. 2538 : 75).

2.1.2.5. Concept Development

People develop their concept from the process called "Reciprocal Determinism" or the continuing interaction among environmental factor and personal factor and individual behaviors as called "Bandura's three-sided model" (Welsh, In Blasch,et al., Eds., 1997 : 201). An individual behavior is influenced by a personal factor, which is anxiety and self-confidence, whilst a personal factor is reflectively influenced by an individual behavior. Similarly, an environment influences behavior and an environment may be changed because of an individual behavior. In order to make the dimension of these three elements complete, the environmental factor may have an impact on the personal factor and it may be influenced by a personal factor alike, as shown in the chart 1.

Concept development is necessary for human-being, especially persons with visual impairment. To understand the reality may be difficult if the visually impaired cannot build up their concept and recognize function of the objects. The underlying basic for understanding concept of the objects is to enable the disabled with limited concept development and experience to make use of the objects in relevance to their concepts. Usually, concept development takes place accidentally by everyday inspection or by an interaction with objects, or anything available (Skellenger & Hill, In Blasch, et al., Eds., 1997 : 429-431).

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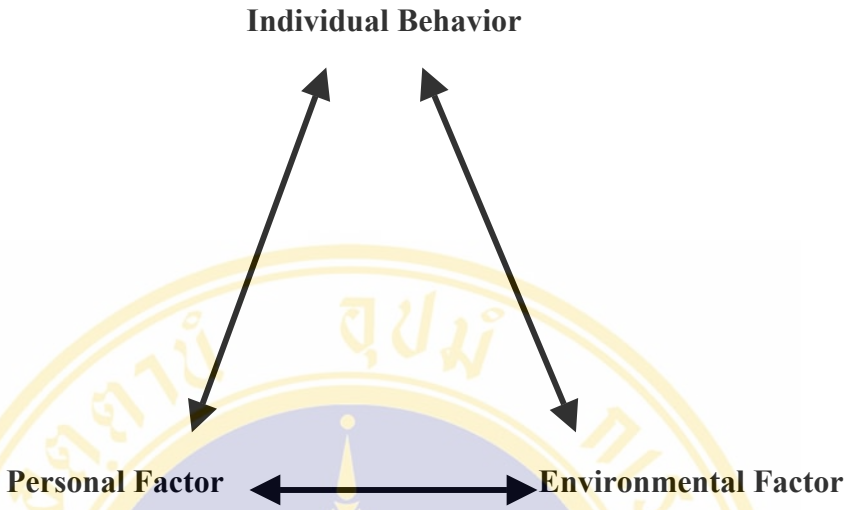

Figure 1: Bandura's three-sided model of reciprocal determinism

Concept buildup may be multi-level, from concrete to abstract (Phadung Arayawinyu, B.E. 2539: 85). It covers the following processes:

(A). Understanding of concrete - A specific indication of an object or action.

(B). Understanding of usage and function - An indication for the purpose of a certain object or what we should do with it.

(C). Understanding of abstract - Summary of major characteristics of an object.

Practicing of concrete perceptions development at early stages encourages children with visual impairment to create their reality about the outside world. They need to be experienced in using their remaining senses to create the correct and real concept out of their environments. However, they do encounter some limitations in terms of large objects such as mountain, sky, cloud, ocean, and a very small living thing such as bacteria (Wongpak Poopansri, B.E. 2540 : 149; Waree Tirajit, B.E. 2537 : 28). Children with visual impairment may be able to identify the chair by sitting on it but they have no profound understanding about its world without the first hand experience about it. This applies to the reality about spaces. Without exploring the grocery store, department store, street, sidewalk, intersection with traffic lights, airport, and the world of different places, they have no concept and environment perception. Sensory awareness and cognitive awareness are built on the fundamental

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of touch and concept. In another word, mobility and exploration are a must for cognitive development, especially during early stages of developmental ages. Teaching environment concept to children with visual impairment is as great responsibility for O&M specialist as it is for their parents and instructors (Baldwin, n.d. : 4-5).

2.1.2.6. Social and Emotional Development

Social and emotional development is also very important. If children with visual impairment are to achieve satisfaction as human who is surrounded by people and to feel that they are accepted in the society of this world, their social and emotional development must be reflected in three ways, from the children themselves, from what their parents see, and from what others see in them (Barrera, 1991 : 269-271).

Relationships between children with visual impairment and others influence their social and emotional development as well. If their communities see them as something pitiful or shameful, they easily absorb these images. Parents of children with visual impairment may behave variously to allow their Children's social and emotional maturity. For examples, they can help their children with the decision making simply by telling them what should or should not be done. This is because disability tends to give them some excuses not to try new experiences. Their parents can help them learn the directions around them, learn to find clothes in the wardrobe by themselves, learn how to eat alone, and socialize with friends from school and outside of school. These kinds of assistance enable them to achieve their goals by using their touch instead of eyesight. Although children with visual impairment need their parents' protection, it should not prevent their freedom to do things on their own.

As a summary, children with visual impairment deserve various education from learning activities and extra-curriculum activities (Daranee Uthairattanakij, B.E. 2538 : 76) in order to achieve balanced mental, emotional, social, psychological, and physical abilities. If we pay attention to all these developments at the right time, persons with visual impairment can adjust themselves and be ready to earn their living accordingly (Barrera, 1991 : 271).

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2.1.2.7. Attitude towards Self and Work

Attitudes of most disabled towards themselves and their working conditions are a result of their lack of self-confidence and self-acceptance caused by cultures and environments in the Thai society that the disabled should be kept at home. This has reduced their self-confidence. They are unfamiliar with living in the society outside of their houses. Carl Jensen (1997 cited by Somporn Umpawasiri, B.E. 2540 : 7) has suggested four attributes of self-confidence and self-acceptance as follows:

1. Love - must be a person who learn how to give and take affection from others.
2. Respect - must be a person who learn how to respect and be respected by others.
3. Positive thinking - must be a person who have positive thinking.
4. Acceptance - must be a person who accepts that people have unequal ability.

Everybody possesses self-esteem since he/she was born. However, because of fear, he/she is afraid to show his/her self-confidence. He/she is afraid of being unaccepted, neglected, and rejected. Without being taught to love and take pride in themselves, the disabled are concerned and afraid of everything around them. They fear that their employees and co-workers will reject them. We, therefore, should understand and give them some opportunities to eliminate their feeling of being neglected or rejected. Other than fear, negative thinking also plays an important role on their physical health. It does not only lead to weaker body, but also to lack of happiness and enthusiasm in life. At the same time, being accepted by the society and people around them play a large part in building or destroying their confidence. For this reason, those surrounded them and their families must realize and give them constant moral support in the right way (Waree Tirajit, B.E. 2537 : 28; Somporn Umpawasiri, B.E. 2540 : 7).

Attitudes of persons, their parents in particular towards children, are important factors for children to accept their disabilities. If their parents can make them see their disabilities as something challenging instead of a serious fault, the children can better accept their disabilities, resulting in their motivation to learn and develop their own potentials (Chantira Loescharusaramdee, B.E. 2545 : 19; Daranee Uthairattanakij,

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B.E.2538 : 76). Children's self-concept develops through an interpretation of how other people look at them, and to adjust themselves accordingly. It is reflected in their personality. Relationships between parents and children are the most important in life. As Lowenfeld (1964 cited by Barrera, 1991 : 271) said "The way parents really feel about their children is much more influential in child development than any techniques or methods regarding their upbringing."

2.1.2.8. Independent Living

Samart Rattanasakorn (B.E. 2545 : D, 4) defined Independent Living as a skill or technique that allows persons with visual impairment to have good quality of life, it consists of activities of daily living (ADL), social skill, O&M, and communication skill. His report found that 72.0 percent of the sample had skill in O&M, 66.0 percent had social skill, 59.6 percent had ADL, and 49.7 had communication skill. Major factors that influenced Independent Living are --- not being a burden to a family or relied on other persons, reason to survive, desire to confront things and ability to stand on their own feet.

Adof Ratzka (2002) defined Independent Living as "…a philosophy and a movement of people with disabilities who work for self-determination, equal opportunities and self-respect…does not mean that we want to do everything by ourselves and do not need anybody or that we want to live in isolation…we demand the same choices and control in our every-day lives that our non-disabled brothers and sisters, neighbors and friends take for granted. We want to grow up in our families, go to the neighborhood school, use the same bus as our neighbors, work in jobs that are in line with our education and abilities, start families of our own…need to be in charge of our lives, think and speak for ourselves."

It has long been accepted that immobility is a limitation in adjustment on academic and vocational learning (Blaha & Manshardt cited by Chalam Yam-iam, B.E. 2542A : 6-7). O&M is an important basic skill for development of an individual's quality of life because an independent movement creates a motivation. It is an attempt to make the society realize and accept that persons with visual impairment can travel independently in the society the same as anybody else (Blasch, et al., 1997 : 1). We can say that O&M is the key to let the visually impaired be free (American Foundation

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for the Blind, B.E. 2531 : J; Hill, n.d. : 2). O&M should be included in every school curriculum and in every rehabilitation center programs to teach persons with visual impairment how to directly implement its principles and methods, or how to apply O&M into their daily livings such as routines, recreational activities at all time. Instructors must constantly report the students' progress to their parents and suggest ways to encourage the students to apply O&M to their daily livings as much as possible (Chalam Yam-iam, B.E. 2542A : 6; Hill, n.d. : 2-3).

Codina (1994 : A7) supported that persons with visual impairment can only have perfect Independent Living when they have developed both O&M and ADL. Her research was based on working experiences with students in the rehabilitation center in Barcelona, Spain. She took advantages of large numbers of personnel in the center to observe 150 students in different environments and situations. She found that there were relationships between O&M skill and ADL skill of the blind and low vision population.

Nowadays, the United States of America and some European countries have set up many centers and/or institutes to provide services for Independent Living to persons with visual impairment. The services include teaching the visually impaired how to adjust, function, and live as independently as possible in their own community. Examples of these are Oregon Commission for the Blind (OCB) in Oregon, which offers training programs in ADL, O&M, Reading and Writing for Communication, and Personal Management, whereas Florida Department of Education in Tallahassee, Florida aims to train people with severe visual impairment on how to live more independently at their homes and in the communities. Parts of the programs offered here contain O&M, ADL, Communication, and Advocacy for Right. At Illinois Iowa Center for Independent Living (IICIL), courses include Braille lessons, White Cane Technique, Cookery, and Household Management. The courses can be arranged individually at the disabled home or at any place where is convenient. At Wyoming Independent Living Rehabilitation (WILR), ADL and Mobility training programs are also available to help the elderly persons with visual impairment or ones who are above 55 years old recover or maintain their Independent Living. Furthermore, in Europe, the institute for Independent Living is also available in Sweden.

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2.2. O&M Curriculum

O&M course was found in the United States of America in 1945 by Dr. Richard Hoover and his staff. Since then, it has been developed and applied to serve the needs by many countries. For instance, the courses developed in United States of America, Britain, and Australia are one-year courses, whilst in Asia, there are differences about this course depending on whether it includes ADL into O&M or not. Mostly, it is an 18-month course and a 100-day intensive course (Blair, B.E. 2542 : 4). In Indonesia and India, the 4-month course is offered (American Foundation for the Blind, B.E. 2531 : I). At present, O&M has expanded and unceasingly developed. It can be said that O&M teaching has been performed worldwide.

Hill (n.d. : 2) suggested that the contents of O&M course should cover Sighted Guide Technique, Protection Technique, Indoors and Outdoors Cane Skill, Street Crossing, and Use of Public Communication System.

Tellevik (1994 : A6) suggested that the two most important factors for O&M development were the goal-directed activity and to understand why the mobility goal should be achieved by practicing the mobility route that could be applied in reality and implementation of the goal-directed activity to create more motivation. Besides, to understand why the mobility goal should be achieved can stimulate the visually impaired interest in working. Mobility training, therefore, should include both goal-directed activities and motivation objectives and mobility skill should be taught under the condition that mobility goals can be achieved.

Allen and et al. (1977 : xxi – xxiii; Crews & Clark, In Blasch, et al., Eds., 1997 : 439) commented that it was very challenging for instructors to teach O&M to the senior with visual impairment because their surroundings usually differ from those of children. In addition, they have experienced various changes in social and health aspects such as retirement, loss of spouse, or increase in disability of the spouse. While children's travel goal focus on independent orientation and mobility in various environments, the seniors may be satisfied with travel with others. Apart from this, the seniors may have different destinations they would like to go such as grocery store, pharmacy, recreation place, friend and family's house. Therefore, instructors should adjust the course to be suitable for each of their students. For example, some of them may want only the Sighted Guide Technique training. Moreover, since they are very

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suspicious, they demand explanations of work in details and they want to be sure that the techniques used are safer than the previous ones. The trainers must try to build the student's trust in training and learn new skill so that their students can gain the most from rehabilitation.

2.2.1. O&M Courses in Thailand

The first O&M Training in Thailand took place under the cooperation between Department of General Education, Ministry of Education and Christoffel Blindenmission (CBM), Germany. It aimed at offering mobility skill to children and adult with visual impairment. Before the settlement of the training, the conference had been held by the Drafting Committee composed of CBM Asia Regional officer, representatives from foundations and associations for the Blind in Thailand, and representatives from Department of General Education. The conference took place in B.E. 2526 (1983). It agreed that CBM would provide financial support to send two Thai instructors to be trained on O&M, organized by Y.M.C.A. and CBM, for four months in India. Once they were back, they were to work as O&M training specialists. Later in B.E. 2527, CBM urged the Special Education Supervisory Unit, Department of General Education under Ministry of Education to conduct O&M training for the first time in Thailand. The 13 participants were selected from special education instructors, education supervisors, and trainers from across the country. (American Foundation for the Blind, B.E. 2531 : H-J). In B.E. 2531, the completed version of O&M Training Handbook was published and distributed to people concerned for the first time in Thailand. It described the methods of training persons with visual impairment on how to travel with the Sighted Guide Technique and the White Cane Technique.

As for O&M training in Thailand today, personnels who work with the visually impaired pay very careful attention to the Sighted Guide Technique and pay brief attention to the White Cane Technique, but O&M instructors focus on these two topics in details as they are the most suitable for Thai economy, society, and geography. Currently, Dogs Guide Technique and Electronics Travel Aids Technique training have not yet been implemented because they are not appropriate and ready for Thailand. (Chalam Yam-iam, B.E. 2531 cited by Nuchanard Todee et al., B.E. 2544 :

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12-13). Each method and principle requires specific practices and techniques that must be learned. It is very important that persons with visual impairment learn these techniques. The ultimate goal is to help them gain safe and independent access to both familiar and unfamiliar environments in the most graceful and natural manners (Suwimon Udom-piriyasak, B.E. 2537 : 4).

At present, agencies or O&M training institutes in Thailand offer O&M course for O&M instructors and provide O&M services to the visually impaired. Rajabhat Institute Suan Dusit, for instance, offers a program in Special Education. Faculty of Education has been offering O&M Program for undergraduate students majoring in Special Education and minoring in Teaching Persons with visual Impairment since B.E. 2529. The course contents have been improved periodically. Nowadays, Rajabhat Institute Suan Dusit organizes O&M course for children with visual impairment (Rajabhat Institute Suan Dusit, B.E. 2544 : 33-35). It includes these contents --- Philosophy and Definition of O&M, Sensory Awareness Training, Motor Development, Concept Development, Pre-cane Technique, Principles of Orientation Training, and Principles of Mobility Training for children with visual impairment.

Apart from Rajabhat Institute Suan Dusit, Ratchasuda College at Mahidol University has also included O&M in the graduate program in Rehabilitation Service for Persons with Disabilities. The program is divided into O&M 1 and O&M 2. Contents of the first course contain O&M Philosophy, History of O&M, Characteristics and Types of Persons with visual impairment classified by medical aspects, Usages of Sensory Awareness, Pre-Cane Skill, Sighted Guiding Technique for Persons with visual impairment in Different Situations, Soliciting Aid, Accepting and Refusing Aids, Protection Techniques, White Cane Technique, Indoors and Outdoors Cane Techniques, Cane Techniques to Avoid Obstacles, Using a Public Transportation, Traveling in Public Places and Community, as well as Self-help skill or Activities of Daily Living.

O&M 2 previews the contents of O&M 1 and add some contents on Familiarization with the Room and Building, Knowledge about Low Visions, Recreation Activity for Persons with visual Impairment, Street Crossing, Avoid Obstacles, Independent Travel in the City, Modified Cane Techniques to Solve Problems while Travel, Usage and Producing of O&M Media and Equipment,

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Independent Travel in Rural Areas, Teaching Planning, and O&M Practicum for Children with Visual Impairment.

Many other organizations, in both private and governmental sectors, providing O&M training for persons with visual impairment have developed O&M training curriculum for their own use. Example of these are the Thailand Association of the Blind, schools and centers under the responsibility of Foundation for the Blind in Thailand such as Bangkok School for the Blind, Skills Development Center for the Blind at Nonthaburi province, Sampran Rehabilitation and Vocational Training Center for Blind Women at Nakhon Pathom province, and Special Schools under Department of General Education, Ministry of Education such as Chiang Mai School for the Blind at Chiang Mai province, Surat Thani School for the Blind at Surat Thani province, and so on. One of the course that has been written in document is O&M (Cane Technique) B.E. 2538, which belonged to Skills Development Center for the Blind. It is developed for persons with visual impairment registered at the center. Its contents are proper for mobility of persons with visual impairment and can be applied immediately in their daily living. Major subjects of the course are Sensory Awareness Training, Concept Dimension, Mobility Skill, Mobility with the Sighted Guide Technique, Independent Mobility, and Activities of Daily Living (Refer to Appendix C for details).

In B.E. 2545 Thailand Association of the Blind joined hands with three major ministries, which are Ministry of Labor and Social Welfare (changed to Ministry of Social Development and Human Security in B.E. 2546) by Department of Social Welfare, Ministry of Education by Department of Non-Formal Education, and Ministry of Public Health by Institute of Thai Traditional Medicine, Department of Medical Services to organize vocational training for persons with visual impairment under the project named Thai Traditional Massage Training for the Blind and Underprivileged Women in Local Areas. It focused on improving quality of life of persons with visual impairment and to provide working age visually impaired with vocational skill and skills necessary for their daily living. Self-help skill and White Cane Technique are among the courses offered, which takes 75 days of training, one hour a day. It concentrates on traveling alone without the cane or Sighted Guide Technique, traveling alone with the cane, familiarity with environment, listening, touching, smelling, approximating of distance and taking directions.

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To sum up, development of O&M Program in Thailand recently still concentrates on the Sighted Guide Technique and White Cane Technique. Teaching techniques, duration of training, and other extra-subjects have been modified to be suitable for each age of students and geographical region that persons with visual impairment are living in.

2.2.2. O&M Curriculum in Other Countries

Although culture, regime, and geography of every country around the world differs and there are some complications in O&M development, O&M still continues to expand and develop. In the past 50 years, there were no countries in any continent that did not teach O&M. The training is likely to go on, but O&M and services provided vary greatly (Neustadt-Noy & LaGrow, In Blasch, et al., Eds., 1997 : 641).

America

O&M begins during World War II (1939-1945) when a lot of American soldiers who had lost their sight in the battlefield were sent to the hospital for rehabilitation for persons with visual impairment in Avon, Connecticut, United States of America. Although, O&M teaching was not yet available at that time, the program used during rehabilitation had urged persons with visual impairment to be aware of and try to use things around them such as echolocation, surface changes in the floor, and the spatial layout and landmarks of the building and campus.

Such a teaching did not include the White Cane Technique until Dr. Richard Hoover saw the need of the cane to help persons with visual impairment get around obstacles. He then started to develop a cane technique by blindfolding himself for the first time and tried various techniques with many people. Finally, he managed to come up with “Hoover Cane Technique”, otherwise known as “Touch (Cane) Technique”.

Later, with political skill, White Cane Technique initiatives plus other trainings that had become more accepted, Warren Bledsoe, and Russ Williams worked together to develop the Orientation skill and select five new instructors for the training for the first time. He paired two instructors together; one did the teaching while the other was blindfolded. Success of O&M and training program at that time had been transferred

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to instructors at Hines Veteran Administration Hospital and became the origin of teaching techniques used today.

White Cane Techniques changed from time to time. For example, the cane that Hoover had used to teach the veterans was less than 44 inches in length. Later, longer canes were used to match with the height of each user. Changes were made to training techniques, a narrow street crossing using Diagonal Technique to touch the ground at all time while crossing the street. After that, new techniques had been developed to suit the needs of persons with visual impairment (Sauerberger, 1996 : 1-5).

In 1953, Reverend Thomas Carroll gathered a group of people in Massachusetts to discuss the danger of people who had never been trained and established themselves as O&M specialists. He also tried to find the formal instruction process as well as to set standard of work performed on persons with visual impairment. Later in June 1958, the Vocational Rehabilitation Administration (VRA), America declared that an education of O&M experts was the first priority of preparation of rehabilitation personnel. It was the American Foundation for the Blind (AFB) who funded the national conference in 1959 to set up rules and regulations for selection of O&M personnel, to improve the program, and to make suggestions about duration of the preparation and appropriate costs. The conference was considered very important for defining of O&M careers. Minimum preparation stage and O&M experts required by this conference were one year of the university education, and it should have been people without disability rather than persons with visual impairment.

The first O&M program in the university level was conducted at Boston College in June 1960, and the second was at Western Michigan University, Kalamazoo in 1961. There were a lot of demands for students graduated in this new program. In 1962, VRA had given 30 funding for O&M specialists salary to 22 states that needed to hire these people to work in the schools and agencies.

Development of a professional association is another characteristic that indicates the way of being professional. It is where its members share information and work to progress to their occupational goals. The first O&M was developed under the American Association of the Blind (AAWB) in 1895-1984 and Association for the Education of the Visually Handicapped (AEVH) in 1968-1984. Later in 1984, the AAWB joined forces with the AEVH to establish the Association for the Education

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and Rehabilitation of the Blind and Visually Impaired (AER). The standard of personnel preparation in the university had changed since then. In 1986, the AER Division 9 suggested the change for the 1988 structure, modernized the process using Competency-based Guidelines and proposed that the previous program should have been changed to the Biennial Program.

In 1990, the AER Division 9 approved that the graduate and postgraduate in relevant education program would be entitled to O&M certification if they had taken all O&M courses offered by the universities that O&M course were available without becoming their students or graduating from there. But it was also possible for those who did not graduate any program in Visual Impairment Education to be entitled to O&M certification if they had taken all courses in visual impairment education in extra.

There had been 1,339 O&M specialists who had been presented a certificate in O&M by the AER since its initiation in 1996 until March, 1997 (Wiener & Siffermann, In Blasch, et al., Eds., 1997 : 553-561).

Europe

O&M techniques were formally accepted in England during 1964 to 1966. Comparative studies were conducted on the training and results of techniques used in England and United States of America. England had sent persons with visual impairment for the training at Hines and Western Michigan University, applied the American techniques, and had the results evaluated. In the same year, American O&M instructors were being sent for training on O&M in England. The training program was established together with the non-residential O&M training center called Midlands Mobility Center (MMC).

Later in 1969, the MMC together with the RNIB created O&M curriculum for instructors in Great Britain and established National Mobility Center (NMC). During the first 20 years, the center could produce as much as 400 O&M instructors. Most of them were from Europe, e.g. Germany, Denmark, Holland, and Belgium. Some were from Commonwealth Nations, e.g. Australia, New Zealand, South Africa, and India.

In France, O&M training was started in 1968-1969 with two workshops in Paris organized by the American Foundation for Overseas Blind (AFOB). And in

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1980, the French Mobility Center was found in Marly Le Roi. It could train 6-8 O&M instructors each year. In 1992 this center had its name changed to Association of the Blind and Visually Impaired (APAM). More than 100 O&M instructors have been trained by the center to date.

Formal O&M instruction began in West Germany (former) in 1974 after the first two O&M instructors completed their training at the NMC, England. They implemented O&M on children with visual impairment in Marburg and began to train other instructors in 1979. Later on, the Institute for Rehabilitation and Integration of the Sight Impaired (IRIS) was found in Hamburg. It provides training for O&M instructors across Europe, particularly in the German-speaking regions of Austria and Switzerland.

Acceptance of O&M techniques in Europe has been unstable. It reflects history differences in the development of services to persons with visual impairment in general. Several examples can be shown as the Dog Guide Technique that have been initiated in Germany since 1916, while the White Cane Technique training was started in England in 1920 as part of O&M training. O&M training was introduced in Sweden in 1952 or 40 years before it was introduced in Greece.

O&M curriculum offered in Europe not only reflects the differences in the development of services to persons with visual impairment, but also reflects the differences in culture and economy. For example, duration of the curriculum ranges from 12 weeks to 18 months, with the numbers of blindfolded training or other simulations for a minimum of 80 hours and a maximum of 350 hours Qualifications of the participants also vary significantly. For instance, in Portuguese O&M instructors must be qualified instructors. In England they must hold a Social Sciences Degree. In Finland they must hold a Bachelor Degree in any program. For other countries, only high school education is required. Some programs are organized by private organizations, while some are by the university in the postgraduate level. Numbers of participants in the training in general are usually small, ranging between 6-15 persons per class. Numbers of O&M instructors who have completed the training vary dramatically in each country. For example, there are nearly 500 qualified instructors in England (population 54 million), there are over 100 in Spain (population 38 million), 240 in Germany (population 79 million), approximately 65 in Denmark (population 5

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million), 30 in Finland (population 5 million), and 12 in Greece (population 10 million). O&M instructors may have a choice of working on a freelance basis or being employed by public organizations as is done in Denmark and Germany. They may work for many organizations as is the case in England or work for one national organization as in Spain, Greece, and Finland.

Comparative studies on qualification of O&M instructors in European countries and America found no differences in terms of age, gender, visual impairment, work experiences in the field of O&M, types of organizations they work for, and distribution of age of children served. Among the differences found were level of education of instructors (which are university level for American instructors and non-university certificate of European instructors) and degree of severity of children served (29% of them who were from United States of America were totally blinded while 49% were from Europe).

Australia

Australia and New Zealand became interested in O&M techniques after the presentations at the First Rehabilitation Conference in Melbourne, Victoria, Australia in 1963. It was followed by numerous short courses in the Royal Victorian Institute for the Blind. During the late 1960s, other agencies that work for persons with visual impairment in Australian and New Zealand began to examine the need for providing of O&M service as well as exchange the study trips of their personnel with England and United States of America. The first Australian O&M instructor completed a full O&M course at the National Mobility Center (NMC) in Birmingham in 1970.

In 1971 the Australian National Council for the Blind, in conjunction with the Australian Council on Rehabilitation for the Disabled, was funded by the Federal Department of Social Security to arrange for a two-year O&M instructors training. The training was run by two American lecturers and 21 instructors had been produced.

Later, the Royal Guide Dogs for the Blind Associations of Australia opened a training course for O&M specialists to increase quality of the personnel under the collaboration of La Trobe University in Melbourne. Most O&M instructors in Australia work part-time for the Royal Guide Dogs Associations and most of them possess dual qualifications as the Guide Dog instructors and ADL instructors. Services

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may be provided at any of the centers or at the persons with visual impairment's residence. Moreover, most of O&M instructors have been trained at Orientation and Mobility Instructors Association of Australia (OMIAA), founded in 1971. Presently it has approximately 100 members working across Australia and New Zealand.

Development of O&M techniques was introduced in New Zealand in the early 1970s but the training did not start until the late 1980s. O&M instructors were either sent for the training or came from Australia, Britain, Canada, United States of America, and other European countries such as Sweden and Germany. In 1988, the Royal New Zealand Foundation for the Blind (RNZFB) provided Massey University with the financial support to establish O&M curriculum. The graduates would receive the postgraduate a Certificate in Rehabilitation and would be recognized by the AER and the OMIAA. O&M instructors who are employed by the RNZFB work separately at either their regional offices, rehabilitation centers, or the schools for the blind. Most of them are itinerant instructors and services provided by all the instructors are O&M and ADL.

Asia

Japan is one of the most economical developed Asian countries and is the only Asian country to implement O&M training on a large scale basis. More than 500 instructors have been trained in Japan so far. O&M curriculum were included in the first rehabilitation program taking place at the Nippon Lighthouse for the Blind, Tokyo, Japan in 1965. The training was organized with the assistance of the AFOB.

Later in 1970, 1972, 1973, and 1974 the Nippon Lighthouse in conjunction with the AFOB established the short 4-month course. It was run by O&M trainers from the United States of America. In 1975 personnel from the Nippon Lighthouse started to run the training by themselves. At the same time the National Rehabilitation Center for the Disabled in Tokyo began the O&M training course on one-year basis. ADL were also included in it.

In 1991, Ministry of Social Welfare in Japan set off O&M training for the rehabilitation staff. This course was organized in parallel with ADL. Duration of the course was one year and it is reserved for the undergraduate only.

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O&M in Hong Kong is part of the adult rehabilitation program at the school for blind operated by the Hong Kong Society for the Blind. The first O&M training in Hong Kong that took place in 1975 was sponsored by the AFOB. This training had produced six O&M instructors. They were sent for training abroad, and received additional training from the Society for the Blind. In 1979, another 15 O&M instructors were trained by the NMC in Britain, Philippines, Australia, and inside Hong Kong. At present, only eight of them still work in the field of O&M. Loss of personnel is due to the lack of status associated with the O&M position within Hong Kong itself.

O&M was adopted by China rather late when compared to other countries in Asian region. This was due to its closed-door policy and Mao's Cultural Revolution. The first O&M training run in China was sponsored by the CBM in association with the Amity Foundation and the Golden Key Center, approved by the Ministry of Education in China. This training occurred at the School for the Blind in Peking in June 1989 with 11 participants. It was conducted by CBM specialist in the fundamental theory, practice, and rural training. This first short course lasted for three months in length. The second training was conducted in 1990 at the Nanjing Special Education College (500 miles south of Peking). There were 15 participants from different parts of China. Since then, hundreds of instructors have been trained on O&M.

O&M is now part of a compulsory curriculum in the Schools for the Blind in China. More than half of the students have received O&M training after its start five years ago. However, there are another 7 million population who are visually impaired and have never had access to O&M services for the majority of them live in the rural towns where there are only 4 percent of children with visual impairment attending the schools. The problems are due to lack of instruments to help them gain access to O&M training, the shortages of time for the training because they need to make a living, no expectations to receive such services, or the environment that they live in does not allow independent travel.

Services for persons with visual impairment in India are quite completed. They include special and residential schools, vocational training centers, Braille presses, Braille libraries, talking book production centers for the visually impaired,

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rehabilitation centers for persons with acquired visual impairment, mobility training programs, instructors and staff training centers, nurseries for preschool children with visual impairment, homes for the elderly with visual impairment and even small agencies for persons with multi-disabilities (deaf-blind). Additionally, there are factories producing aids and special devices for persons with visual impairment in India as well. However, the services are not thoroughly and sufficiently distributed to answer the needs of persons with visual impairment nationwide that amounts to 4-9 million. Only 10 percent of visually impaired children receive any form of education and less than 1 percent of visually impaired adults receive rehabilitation services. Obstructions of services expansion come from economic, cultural conditions as well as religious belief towards the blind. The majority of the population (more than 80 percent) lives in the countryside and remote villages. Though there are a large numbers of service agencies and the Community-based Rehabilitation (CBR) in India to serve the rural communities, services for the visually impaired are still inadequate.

The first O&M program was established in Dehra Dun, north of India, under the auspices of India's Social Welfare Department, and with the help of the American lecturer. Later, this course was transferred to New Delhi by the Blind Relief Association. In 1975, the CBM sponsored the training for 25 instructors and in 1977 the National Association of the Blind sponsored O&M beginning course for another 20 instructors from different parts of the country at Bombay. And in that same year, Y.M.C.A. College of Physical Education in Madras opened O&M training course with the assistance of the CBM.

In conclusion, training, seminars, and workshops regarding to O&M take place for hundreds of time throughout Asia, be it Malaysia, India, Singapore, Hong Kong, Sri Lanka, Philippines, and Taiwan. Some countries do have their own instructors in the college level and some programs are established by private organizations with the help of foreign experts (Blair, 1999 : 4).

Africa

South Africa is the only country in Africa to develop and adopt O &M on a large scale. It was introduced in the country for the first time in 1969 as a supplement to Dog Guide Technique training. The result was the more completed program. In

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1974, The South African Guide Dog Association established a 9-month O&M training program and the ADL was included. Since 1986, more than 100 instructors have been trained. Later in 1978, 1983, and 1987 a shorter course for a period of 4.5 months was conducted to train instructors who work with the visually impaired in the rural areas, which is estimated to be more than 60 percent of the total persons with visual impairment in South Africa. And since there are no sidewalks and streets in the countryside, the White Cane Technique is specially developed to help with traveling in the rural areas of South Africa.

In 1995, Botswana, the newly formed state, launched O&M training at the schools for the blind with assistance of College of Special Education in Sweden. Basic techniques of O&M were offered to the community school teachers (Neustadt-Noy & LaGrow, In Blasch, et al., Eds., 1997 : 624-641).

As a summary, O&M training was expanding around the world during the last 40 years. It was first developed as a program and travel techniques in the United States of America, then in England, where it was further developed, western and northern European countries, Canada, and other parts of America. Later it was introduced in Australia, New Zealand, Japan, and South Africa where it was widely adopted. O&M training methods in various countries are rather similar, though they may vary in terms of politics, educational system, language, density of the population, and man-made environments. However, in reality, the adoption of techniques and implementation of the vocational value on the training of instructors and services to persons with visual impairment are more similar even though the identity of environments created, education, society, and cultures are not the same. Particularly in the developing countries, it can be seen that their standards of living and cultural values differ significantly. Therefore, O&M training has to be adapted to answer the need, belief, and resources available for the provision of services to persons with visual impairment. In many Asian and far eastern countries, for example, O&M is practiced by persons who perform multi-duties in vocational, recreational and educational rehabilitation, whereas in western countries only specialized instructors are used for O&M training. Therefore, many countries give their priority to the goal of independence while some countries in Africa and Asia e.g. Bangladesh, Pakistan, and rural China, still forbid the cane training. This goal is seen as incomplete, immature,

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and odd beliefs to the common values of interdependence (Neustadt-Noy & LaGrow, In Blasch, et al., Eds., 1997 : 641).

2.3. O&M Service Agencies

In Thailand, there are public and private agencies providing services to persons with visual impairment. Many of them provide services for or work with persons with visual impairment in terms of education, vocational training, and social aspects. Agencies that provide O&M services are:

- Ratchasuda College, Mahidol University is the higher education institute founded in B.E. 2536. It has a status equivalent to the university faculty. The instruction began in B.E. 2540. Some work on visual impairment are offering a Master's Degree in Rehabilitation Service for Persons with Disabilities, academic services for the blind, Braille reading and writing competition projects, youth camps for the blind students, and research projects related to visual impairment.
- Special Education Program, Faculty of Education and Special Education Centers, Rajabhat Institute Suan Dusit, Rajabhat Institute Nakhon Ratchasima, and Rajabhat Institute Mahasarakam. Course offered is Teaching of Persons with Visual Impairment in the graduate level. Early intervention services are also provided for preschoolers and parents as well as resource services for visually impaired students in the institute. The Early Intervention Center (E.I.) Rajabhat Institute Suan Dusit offers early intervention services to children with disabilities. It aims at the development of 6 skills, which are fine and gross motor, language and communication, self-help, social, pre-academic skills, and O&M for children with visual impairment, the pre-cane technique in particular. Its objectives are to provide guidance and counseling to parents and persons concerned with caring, assisting, and teaching of disabled children aged between 0-7 years old. Services are available at the center and at the client's residence.
- Skills Development Center for the Blind was found in B.E. 2506. Its major duty is to provide training on mobility basic abilities, personality building, daily conduct, and healthiness. The center takes only male students between 15-45 years old who have only visual impairment. It aims are to give students some skills so that they can apply what they have learnt to earn a living and live a happy life. The curriculum

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used is O&M (Cane Technique) B.E. 2538. Major purposes of this program are for the students to be knowledgeable and skillful in mobility, safe, accurate, and independent travel to destinations, so they can change or adjust their personality to a normal extent the same as anybody and to allow development of physical and psychological competence which is a basis of a happy life.

The curriculum contains the followings: Orientation, Sensory Awareness Training, Motor Movement, Sighted Guided Technique, Accepting and Refusing Aids, Stairways, Examining, Independent Mobility, Touch (Cane) Technique, Environment Awareness, Travel in Town, Travel in the Countryside, ADL Skill, Low Vision Students Training (Refer to Appendix C for details)

Instruction of O&M (Cane Technique) B.E. 2538 is specially organized based on awareness and each step of psychological and physical development of the individual. The instruction in one education year is arranged in periods, 1.15 hours/period/day until the end of the program, which is 250 hours. The theory occupies 20 percent and the practice 80 percent of the total instruction session. The class is divided into a group or an individual according to the necessity of a certain subject. The evaluation is done for every step of training to make sure that the instruction follows the right course.

Apart from O&M program, Skills Development Center for the Blind offers Braille Training, General Subject, Agriculture, Physical Education, and Thai Traditional Massage certified by Institute of Thai Traditional Medicine, Ministry of Public Health

- The Sampran Rehabilitation and Vocational Training Center for Blind Women was in operation in B.E. 2525. It takes female visually impaired aged between 16-45 years old for the rehabilitation of vocational and O&M training. It uses the same O&M (Cane Technique) B.E. 2538 as Skills Development Center for the Blind because these two centers are under the responsibility of Foundation for the Blind in Thailand Under the Patronage of H.M. the Queen.

In addition to the above program, the Sampran Rehabilitation and Vocational Training Center for Blind Women's major objectives are to provide female visually impaired with cooking skill, home management skill, music skill, and massage skill so they can adopt it once in their own domicile, as well as general subject and Braille.

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- Bangkok School for the Blind is the private-run special charity school (welfare for the blind) of the Foundation for the Blind in Thailand Under the Patronage of H.M. the Queen with the help of personnel from Ministry of Education. There are non-boarding students from 4 years old and above. O&M and ADL are taught to visually impaired students. They are extra subjects of the compulsory curriculum and are offered to preschool up to junior secondary school students.
- Thailand Association of the Blind provides services for quality of life, good existence of persons with visual impairment in the society, training, and counseling.

There are many other agencies such as the Foundation for the Blind in Thailand Under the Patronage of H.M. the Queen, the Thailand Caulfield Foundation for the Blind Under the Patronage of H.M. the Queen, the Christian Foundation for the blind in Thailand Under the Royal Patronage of H.M. the King, the Redemptorist School for The Blind, Chiang Mai School for the Blind, the Foundation for the Employment Promotion of the Blind, Chaiyapoom Eye Care Foundation, etc.

O&M Service Agencies abroad are:

- Association for the Blind of Western Australia provides services for O&M training to enable persons with visual impairment to develop their independent travel skill and cane techniques. Other services provide are counseling, rehabilitation of persons with visual impairment, aid devices, and library services.
- Nippon Lighthouse Mojin Jyoho Bunnka Center or Information and Cultural Center for the Blind - NLMJ is located in Osaka, Japan. It was established in 1922 and so it is a very old agency. It is the second largest library for persons with visual impairment in Japan. It has 25 staff, 600 volunteers plus more than 3,300 sponsors. More than 13,000 titles of Braille books and 11,000 of talking books are available here. In 1965 the Nippon Lighthouse set up the first Vocational & Adjustment Training Center in Japan to provide training on mechanic, telephone operator, computer programmer.
- The Royal School for the Blind, Liverpool, England offers O&M training services. It aims to give visually impaired students skills to move around efficiently and safely, and as independently as possible. The curriculum contains a development encouragement program. Students can learn necessary skills to explore their

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environment, travel independently, reach their destinations as happily as other members of the community.

- Renwick College, University of Newcastle in Australia offers a Graduate Certificate in Educational Studies (Special Education). Courses available are O&M for Students with Visual Impairment and O&M for Learners with Multiple Disabilities.
- La Trobe University, Australia offers a one-year O&M course for the graduate, under Faculty of Public Health Sciences. The course contains Sensory Systems in O&M, Perception in O&M, O&M methods, etc.
- Massey University, New Zealand offers a diploma in Rehabilitation of the Disabled Service. It can be taken together with O&M.
- Texas Tech University offers two programs which are Master Degree in Arts and Certificate Program in O&M.
- The San Francisco State University (SFSU) offers two O&M programs which are Master of Arts in Special Education (specialization in O&M) and California Clinical Rehabilitative Services Credential in O&M.

SFSU O&M Program is one of the oldest and is approved by AER to produce O&M specialists who are filled with skills to work with persons with visual impairment at all ages (infancy through adulthood), including those with multiple disabilities. The program contains Basic O&M for Learners with Visual Impairment, O&M Seminar, Persons with Visual Impairment with Development and Diversity, Methods in O&M I, II, III & IV, etc.

2.4. Related Research

Jay D. Gense and Marilyn Gense (1999) have studied O&M elements for students with multi-disabilities (deaf-blind) and found that the basics of Mobility Skill were Sighted Guided Technique, Protection Techniques, Trailing, Mobility Devices, Dog Guide Technique, Electronic Travel Aids Technique, and Wheelchair Mobility. They also suggested the tips for training with the family, which are environmental exploration, encourage experiences on a variety of surfaces, allow full participation in activities, make full use of point of references, encourage independent travel, assure that lighting is adequate for children who have residual vision, make use of physical

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boundaries, provide opportunities for unexpected problem-solving, and encourage association of familiar toys and objects with environments in which they may be used.

Fazzi and others (1996) has studied characteristics of O&M instructors for persons with visual impairment or other disabilities and found that the instructors who are visually impaired had good understanding of the visually impaired learning problem but for their safety, it has not been proven. Most students did not feel safe with instructors who are visually impaired.

Carol Yakura's study (1994) found that O&M training for self-development could enhance the Motor Development, Sensory Awareness, Conceptual Skill, and eventually O&M skill.

Motley (1996) studied the role of the teacher in the instruction of O&M by creating questionnaires to analyze individuals working and studying in the field of O&M. This study focused on opinions of 100 school personnels, agency personnels, and the visually impaired. The respondents who aged between 32-38 years old strongly agreed that cane familiarity and independent skill were the most necessary competence for the visually impaired. The study also found that the respondents' concern were O&M services to the visually impaired, while less interests were focused on details of the services.

Nora Griffin-Shirley, Duncan McGregor, and William H. Jacobson (1999) have surveyed O&M instructors who hold dual certification in O&M and Special Education for Children with Visual Impairments and found that there were demands for dual certification personnel but the training and role of personnel were too few. In 1995 a survey was developed and sent to six faculty members of Texas Tech University and University of Arkansas. After being revised and improved, a survey was mailed to 51 graduates with dual certification of Texas Tech University, and 34 of University of Arkansas.

Only 50 respondents returned the surveys, 27 from Texas Tech and another 23 from University of Arkansas. The majority of them held a master's degree and certification as O&M instructors by the AER Division 9 and had teaching experiences at an average of 7 years before attending the training.

Later in 1996, a survey was sent to 1,131 members of the AER Division 9. Only those with dual certification were requested to complete it. Only 212 surveys

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were returned. Both surveys yielded similar results that are instructors of children with visual impairments spent most of their time (75 percent) teaching Braille, languages, mathematics, and spent their few remaining time teaching O&M to public school students.

Dean (1998) has studied parents and O&M specialist's understanding of Independent Living and Visual Impairment. It focused on parents of 8-12 year old visually impaired and with no additional disabilities in 5 counties of Southern California. The sampling contained 18 parents and 15 O&M specialists. The results showed that families had positive attitudes and perceptions about their children's O&M training program and their children's O&M specialists and valued Independent Living with emphasis on education, work, and relationships with others whereas O&M specialists focused more on their abilities as an independent traveler.

Ambrose (1997) has assessed the way finding ability of 24 normal developing children from the six year and ten year age groups and compared it with responses of 36 questions covering 6 aspects including location or addresses, signage, orientation with landmarks, traffic lights, and environmental objects. Unfamiliar routes were tested on children and statistical differences were found on the way finding of both age groups and no significant differences between boys and girls.

Nancy Higgins (1999 : 561-577) explored the effects of O&M on the lives of persons with visual impairments. The interviews were conducted on 15 children and adults, and 5 parents of the visually impaired. All of them believed that O&M is essential to the growth and development of the visually impaired children. The majority of the visually impaired had positive attitudes towards their instructors when their instructors were competent, challenged and motivated their students and had a sense of humor. Parents of visually impaired children need to encourage their children to move freely because O&M curriculum is essential for children's development and safe interaction with the environment and it can better help them deal with limitations of their impairments. Higgins also suggested that a survey on gender of the disabled should be conducted to see whether it relates to cane using experiences and dependence.

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Conclusions of related research on O&M are:

1. O&M instructions for children with multi-disabilities (deaf-blind) emphasizes on Sighted Guide Technique, White Cane Technique, Dog Guide Technique, Electronic Travel Aids Technique, in combination with wheelchair training and family training tips,

2. O&M instructors who are visually impaired have better understanding of the learning process of the visually impaired people,

3. O&M instructors in the schools and agencies concerned find that White Cane Technique and Independent Living skill are the highest essential competencies for persons with visual impairment,

4. In the United States of America, there are still demands for personnel who hold a degree in O&M and Special Education for Children with Visual Impairment where the number of training and role of personnel in this field are still inadequate,

5. Families of visually impaired children in Southern California have positive attitudes towards O&M training, O&M specialists, and the value of Independent Living,

6. Adults and parents of the visually impaired children believe that O&M is essential for growth and development since childhood, while persons with visual impairment themselves have good feelings towards instructors who are competent and able to encourage their independent and safe travel.

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CHAPTER III
METHODOLOGY

This research is a survey of perspective of persons with visual impairment and instructors on Orientation and Mobility training at Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women.

3.1. Population

The population in this study include 85 visually impaired persons between 15-45 years old who received O&M training at Skills Development Center for the Blind, Pakkred, Nonthaburi province and the Sampran Rehabilitation and Vocational Training for Blind Women, Sampran, Nakhon Pathom province as well as seven O&M instructors at these two centers.

3.2. Population Selection Method

Persons with visual impairment and O&M instructors have been selected based on the following criteria:

Persons with visual impairment

1. Have no secondary problems other than visual impairment.
2. Have received O&M training at Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women for a period of at least 3 months.
3. Aged between 15-45 (Those who were born between B.E. 2500-2530).

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O&M instructors

1. O&M instructors at Skills Development Center for the Blind.
2. O&M instructors at the Sampran Rehabilitation and Vocational Training Center for Blind Women.

3.3. Research Instruments

Research instrument was developed by the researcher according to research objectives based on the survey research guideline suggested by Uthumporn Jamornmaan (2537 : 34-37, 63-92, 105-130). They are composed of 2 forms: the interview form used for persons with visual impairment (individual interview) and the questionnaire form used for O&M instructors (submitted in person).

1. Interview Form for Persons with Visual Impairment

The interview form was developed by the researcher. Data questions are divided into two main sections: personal information and perspective of persons with visual impairment on O&M. It contains general data of persons with visual impairment, such as, gender, age, cause of visual impairment, age of onset, level of education, domicile, and parents' occupation and upbringing. The interview methods to survey perspective of persons with visual impairment on O&M training are questions with choices and open-ended questions.

2. Questionnaire for O&M Instructors

The questionnaire was developed by the researcher. It is divided into two major parts: personal information and perspective on O&M training for persons with visual impairment. The personal data is made up of gender, level of education, and question about instructors' perspective on O&M training for persons with visual impairment. Questionnaire comprised of both close-ended and open-ended questions.

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3.4. Methodology

1. Research Process

1.1. Studied document, theories, and researches related to persons with visual impairment's expectation of O&M training, its purposes, advantages, and application into daily life.

1.2. Selected the population who were persons with visual impairment and O&M instructors at Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women. Eighty-five persons with visual impairment and 7 O&M instructors matched the criteria specified.

1.3. Developed the instrument (interview form) to be used in the visually impaired group. This form is divided into two parts as mentioned in section 3.3 (Research Instruments).

1.3.1. Had it examined by three special education and O&M experts for its content validity, purpose fulfillment, and language accuracy.

1.3.2. Tried it out with 10 persons with visual impairment who had completed O&M training at Skills Development Center for the Blind or the Sampran Rehabilitation and Vocational Training Center for Blind women in the beginning of February B.E. 2546.

1.3.3. Improved and revised it and had it re-examined by the experts before being published and used as a final version.

(Refer to Appendix A for details)

1.4. Developed the questionnaire for O&M instructors. This form is divided into two parts as mentioned in section 3.3

1.4.1. Had it examined by 3 special education and O&M experts for its content validity, purpose fulfillment, and language accuracy.

1.4.2. Improved and revised it and had it re-examined by the experts before being published and used for the research.

(Refer to Appendix B for details)

2. Data Collection

2.1. Interview data was collected by an individual inquiry (single interview) from the primary source. The selected population who were persons with visual impairment at Skills Development Center for the Blind and the Sampran

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Rehabilitation and Vocational Training Center for Blind Women were asked to answer the questions and everything was tape-recorded. Data collection took two weeks in the beginning of February B.E. 2546.

2.2. Collection of questionnaire data was done by having O&M instructors at Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women answered the questionnaires. The questionnaires were distributed to the instructors by hand and they were requested to answer and returned them on the date specified. Additional interviews were made in order to gain in-depth information.

2.3. Data was examined, encoded, statistically calculated using Program SPSS/PC+, and processed manually.

3.5. Data Analysis

Data was analyzed by Program SPSS/PC+ (Statistical Package for the Social Sciences / Personal Computer) as:

Descriptive statistics - to explain general characteristics of data e.g. frequency, percentage, mean, and standard deviation in data of Part 1,

Essay description format concerning perspective of persons with visual impairment and instructors on O&M training --- information was clustered with similar points in Part 2 data.

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CHAPTER IV
RESULTS

Data analysis of this research was conducted on persons with visual impairment aged 15-45 years old, who are receiving O&M training at Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women for a period of not less than three months and O&M instructors who worked or had worked there while the research was in process.

Section 1: Results in Perspective Survey of Persons with Visual Impairment on O&M Training

Data collection derived from an individual inquiry (single interview) and tape recording. Eighty-five copies of a perspective survey of persons with visual impairment on O&M training found 57 of them were from Skills Development Center for the Blind and 28 from the Sampran Rehabilitation and Vocational Training Center for Blind Women. It was analyzed by means of statistical method and results are as follows:

Part 1: Personal Data of Persons with Visual Impairment

Research results of personal data of 85 persons with visual impairment at Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women who were the population found that the amount of male selected population was twice the amount of female, contributing 67.1 and 32.9 percent respectively. Every male was from Skills Development Center for the Blind and every female was from the Sampran Rehabilitation and Vocational Training Center for Blind Women. (Details as shown in Table 1)

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Table 1 **Number and Percentage Distribution of Persons with Visual Impairment by Sex**

Sex	*n*	%
Male	57	67.1
Female	28	32.9
Total	85	100.0

When classified by types of visual impairment, there were 71.8 percent of blind persons and 28.2 percent of the population were low vision.

The age of most population ranged between 15-20 years old (27.1%), 21-25 years old (24.7%), 26-30 years old (18.8%), 31-35 years old, 36-40 years old, and 41-45 years old (9.4, 9.4, and 10.6% respectively). When classified by sex, both the 15-20 and 21-25 years old population accounted for the same percentage (26.3%) whereas the 15-20 years old female contributed 28.6 percent. Average age of the population is 27.40 and the standard deviation is 8.51

For cause of visual impairment, most of them had congenital impairment (55.3%) and acquired impairment from various causes (44.7%) such as malnutrition, optic nerve degeneration, accident, glaucoma, cataract. The percentage of congenital impaired classified by sex were 50.9 and 64.3 percent for male and female respectively.

Most acquired impairment onset during the age of 16-20 (11.8%), 6-10 (8.2%), which is equal to age of 21-30, 11-15 (5.9%),and over 31 (4.7%). When classified by sex, most of the male population with acquired disability were between 16-20 years old (12.3%) whereas the female were between 21-30 years old (14.3%).

Most of the visually impaired persons had primary and secondary education (38.8% in each category). 21.2 percent had studied in the regular primary schools, 22.3 percent in the regular secondary schools, 17.6 percent in the primary level special schools for the blind, and 16.5 percent for secondary level. The rest had a certificate in high vocational education and higher education, as which the percentage was the same (1.2%). The uneducated or ones with lower-than-grade 6 education contributed 20.0 percent. When classified by sex, most male population had a primary education (42.1%) while female population had a secondary one (46.4%).

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Most of the visually impaired persons were single (89.4%). Others were either married/lived together or divorced/separated (7.1 and 3.5% respectively). When classified by sex, most male and female were single (87.7 and 92.9% respectively).

Main domiciles of the population were the northeast (36.5%), the central (18.8%), the north, south, and east (16.5, 14.1 and 9.4% respectively). Only 4.7 percent came from Bangkok. When classified by sex, most male and female population came from the northeast (35.1 and 39.3% respectively).

As for occupation of the family, half of the population's parents were farmers (50.6 %), 20.0 percent were employees or company officers, 10.6 percent vendors, 5.9 percent owned a private business or local industry, 4.7 percent civil servants or in a state enterprise, and 8.2 percent others or the unemployed. When classified by sex, most male and female population came from a family who worked as a farmer (54.4 and 42.9% respectively).

For the perspective about their parents' upbringing, more than half thought that they were brought up well, democratic and open-minded style (76.5%). However, some visually impaired persons thought that they were brought up the other ways such as spoiled (9.4%), overprotected (5.9%), ignored/neglected (4.7%), and others such as strictly brought up but rational (3.5%). Most male and female population had had a democratic fostering (73.7 and 82.1% respectively). (Details as shown in Table 2)

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Table 2 **Number and Percentage Distribution of Persons with Visual Impairment Classified by Personal Data and Sex**

Personal Data		Male (N = 57)		Female (N = 28)		Total (N = 85)	
		n	%	*n*	%	*n*	%
Type of Impairment	Blind	41	71.9	20	71.4	61	71.8
	Low Vision	16	28.1	8	28.6	24	28.2
Age (years old)	15-20	15	26.3	8	28.6	23	27.1
	21-25	15	26.3	6	21.4	21	24.7
	26-30	10	17.5	6	21.4	16	18.8
	31-35	5	8.8	3	10.7	8	9.4
	36-40	6	10.5	2	7.1	8	9.4
	41-45	6	10.5	3	10.7	9	10.6
Cause of Impairment	Congenital	29	50.9	18	64.3	47	55.3
	Acquired	28	49.1	10	35.7	38	44.7
Age of Onset	0 month-5 yrs.	32	56.1	20	71.4	52	61.2
	6-10 yrs.	6	10.5	1	3.6	7	8.2
	11-15 yrs.	5	8.8	0	0.0	5	5.9
	16-20 yrs.	7	12.3	3	10.7	10	11.8
	21-30 yrs.	3	5.3	4	14.3	7	8.2
	31 yrs. and above	4	7.0	0	0.0	4	4.7
Level of Education	Lower-than-primary	11	19.3	6	21.4	17	20.0
	Primary	24	42.1	9	32.1	33	38.8
	- Regular	*10*	*17.5*	*8*	*28.6*	*18*	*21.2*
	- Special School	*14*	*24.6*	*1*	*3.6*	*15*	*17.6*
	Secondary	20	35.1	13	46.4	33	38.8
	- Regular	*16*	*28.1*	*3*	*10.7*	*19*	*22.3*
	- Special School	*4*	*7.0*	*10*	*35.7*	*14*	*16.5*
	Vocational, high voc./equivalent	1	1.8	0	0.0	1	1.2
	Higher Education	1	1.8	0	0.0	1	1.2
Status	Single	50	87.7	26	92.9	76	89.4
	Married	6	10.5	0	0.0	6	7.1
	Divorced/Separated	1	1.8	2	7.1	3	3.5
Domicile	Bangkok	0	0.0	4	14.3	4	4.7
	Central	10	17.5	6	21.4	16	18.8
	Northeast	20	35.1	11	39.3	31	36.5
	North	14	24.6	0	0.0	14	16.5
	South	8	14.0	4	14.3	12	14.1
	East	5	8.8	3	10.7	8	9.4

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Table 2 **Number and Percentage Distribution of Persons with Visual Impairment Classified by Personal Data and Sex (continued)**

Personal Data		Male (N = 57)		Female (N = 28)		Total (N = 85)	
		n	%	*n*	%	*n*	%
Family Occupation	Farmer	31	54.4	12	42.9	43	50.6
	Vendor	8	14.0	1	3.6	9	10.6
	Civil Servant/State-Enterprise Officer	3	5.3	1	3.6	4	4.7
	Employee	10	17.5	7	25.0	17	20.0
	Private Business Owner	2	3.5	3	10.7	5	5.9
	Others	3	5.3	4	14.3	7	8.2
Upbringing	Overprotected	3	5.3	2	7.1	5	5.9
	Spoiled	6	10.5	2	7.1	8	9.4
	Democratic	42	73.7	23	82.1	65	76.5
	Neglected	3	5.3	1	3.6	4	4.7
	Others	3	5.3	0	0.0	3	3.5

Half of the population had been trained at the centers before December B.E. 2544 (50.6%) and the other half from January B.E. 2545 to February B.E. 2546 (49.4%). When classified by sex, most male population had been trained from January B.E. 2545 to February B.E. 2546 (56.1%) whereas the female had the training before December B.E 2544 (64.3%). Everyone had had more than 3 months of O&M training, classified by duration of stay at the centers from 3-12 months, which is the longest (56.5%), next was 13-24 months (34.1%), and longer than 24 months (9.4%). When classified by sex, most male and female population had received 3-12 months training (56.1 and 57.1% respectively). (Details as shown in Table 3)

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Table 3 **Number and Percentage Distribution of Persons with Visual Impairment Classified by Duration of O&M training at the Centers and Sex**

Subject		Male (N = 57)		Female (N = 28)		Total (N = 85)	
		n	%	*n*	%	*n*	%
Training Year	Before Dec. 2544	25	43.9	18	64.3	43	50.6
	B.E. 2545-Feb. 2546	32	56.1	10	35.7	42	49.4
Duration of Stay at the Centers	3-12 months	32	56.1	16	57.1	48	56.5
	13-24 months	25	43.9	4	14.3	29	34.1
	More than 24 months	0	0.0	8	28.6	8	9.4

Part 2: Perspective of Persons with Visual Impairment on O&M training

2.1. Objectives Setting about O&M training for Persons with Visual Impairment

This research found that prior to admit into these centers, the visually impaired population had never acquainted with the technique before (51.8%). Only 48.2 percent knew about it. When classified by sex, most male population had experienced of O&M training (56.1%) whereas most female population had not (67.9%). When asking about the previous O&M training, less than half (44.7%) had received O&M training before entering to these centers and 55.3 percent had not. 45.9 percent had not set goals to receive O&M training and 54.1 percent had. When classified by sex, most male population had received this kind of training before (50.9%) and most female had not (67.9%). When asking about the objective, most male and female had set goals to receive O&M training (50.9 and 60.7% respectively). (Details as shown in Table 4)

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Table 4 **Number and Percentage Distribution of Persons with Visual Impairment Classified by Orientation and Mobility Background before Being Trained at the Centers and Sex**

Subject		Male (N = 57)		Female (N = 28)		Total (N = 85)	
		n	%	*n*	%	*n*	%
O&M Knowledge	No	25	43.4	19	67.9	44	51.8
	Yes	32	56.1	9	32.1	41	48.2
O&M Training	No	28	49.1	19	67.9	47	55.3
	Yes	29	50.9	9	32.1	38	44.7
O&M Objectives	No	28	49.1	11	39.3	39	45.9
	Yes	29	50.9	17	60.7	46	54.1

Analysis of the objectives setting of the population revealed that half of them had set goals to receive O&M training such as need it to help them travel as independently as possible (54.1%), objectives concerning ADL such as be self-assisting in the daily life, to socialize, to expose to the outside world, and to assist other peers in the society (29.4%). Other objectives were, for example, for vocational purpose, for education purpose, Braille study, handicraft (47.1%). When classified by sex, most male had preset their O&M objectives (50.9%) while most female had preset their objectives in other areas (71.4%). (Details as shown in Table 5)

Table 5 **Number and Percentage Distribution of Persons with Visual Impairment Classified by Pre-training Objectives and Sex**

Subject	Male (N = 57)		Female (N = 28)		Total (N = 85)	
	n	%	*n*	%	*n*	%
O&M Objectives	29	50.9	17	60.7	46	54.1
ADL Objectives	19	33.3	6	21.4	25	29.4
Other Objectives	20	35.1	20	71.4	40	47.1

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Taking into account the contents in O&M course, 60.9 percent found it relevant for their objectives, 37.0 percent said the content was somewhat relevant and 2.2 percent found it was not relevant. When classified by sex, most male and female found its content relevant for their preset objectives (65.5 and 52.9% respectively). (Details as shown in Table 6)

Table 6 **Number and Percentage Distribution of Persons with Visual Impairment Classified by Perspective on Content of O&M Training Course and Sex**

Relevant to the Objectives	Male (N = 29)		Female (N = 17)		Total (N = 46)	
	n	%	*n*	%	*n*	%
Not relevant at all.	1	3.4	0	0.0	1	2.2
Somewhat relevant.	9	31.0	8	47.1	17	37.0
Mostly relevant.	19	65.5	9	52.9	28	60.9

2.2. Problems and Needs of Persons with Visual Impairment Regarding Travel and Activities of Daily Living (ADL)

2.2.1. Problems of Persons with Visual Impairment Regarding Travel and ADL

Data from the questionnaire revealed that after O&M training, 45.9 percent of the visually impaired population encountered travel problems both inside and outside of their living quarters. These problems are bumping against the building column, door, people coming in the opposite direction, and parked car and tripping over the sidewalk. When classified by sex, female had more travel problems than the male (57.1 and 40.4% respectively).

Most population had no ADL problems (76.5%). Problems found are such as picking the wrong banknote, short of money to spend, and poor housing cleaning. The comparison between male and female showed that male had more ADL problems than female (24.5 and 21.4% respectively). (Details as shown in Table 7)

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Table 7 **Number and Percentage Distribution of Persons with Visual Impairment Having Travel and ADL Problems Classified by Sex**

Subject		Male (N = 57)		Female (N = 28)		Total (N = 85)	
		n	%	*n*	%	*n*	%
Travel Problem	No	34	59.6	12	42.9	46	54.1
	Yes	23	40.4	16	57.1	39	45.9
ADL Problem	No	43	75.5	22	78.6	65	76.5
	Yes	14	24.5	6	21.4	20	23.5

2.2.2. Needs of Persons with Visual Impairment Regarding Travel and ADL

During the O&M training at these centers, most persons with visual impairment required more of independent travels to different places for instance, going back to their hometown in the countryside, going shopping, visiting friends (67.1%). Those who were uncertain were 23.5 percent and those who did not want to travel on their own were 9.4 percent. When classified by sex, most male and female desired more independent in traveling. The former had stronger desire to travel independently than the latter (70.2 and 60.7% respectively). (Details as shown in Table 8)

Table 8 **Number and Percentage Distribution of Persons with Visual Impairment Regarding Needs to Travel Independently Classified by Sex**

Subject	Male (N = 57)		Female (N = 28)		Total (N = 85)	
	n	%	*n*	%	*n*	%
Do not want to travel independently	5	8.8	3	0.7	8	9.4
Want more of independent travel	40	70.2	17	60.7	57	67.1
Uncertain	12	21.1	8	28.6	20	23.5

Regarding the opinion about independent living, most of the subject thought that in some circumstances, assistance from others are necessary (81.2%). About 14.1

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percent thought had very little freedom and had to depend more on others. Only 4.7 percent thought that they were independent. When classified by sex, it is found that both men and women thought that they wanted to be independent under some circumstances because they needed to depend on others when necessary (82.5 and 78.6% respectively). (Details as shown in Table 9)

Table 9 **Number and Percentage Distribution of Opinion of Persons with Visual Impairment about Independent Living Classified by Sex**

Opinion about IL Status	Male (N = 57)		Female (N = 28)		Total (N = 85)	
	n	%	*n*	%	*n*	%
Very independent.	4	7.0	0	0.0	4	4.7
Independent under some circumstances.	47	82.5	22	78.6	69	81.2
Dependent	6	10.5	6	21.4	12	14.1

Concerning about persons who could be their dependable source, most of the visually impaired persons reported that it could be anyone around the area (41.1%) followed by parents (17.6%), normal-sighted friends (16.5%), siblings (11.8%), relatives (7.1%), and others such as wives, teachers at the centers, trusted friends, and low vision friends (5.9%). When classified by sex, the result shown that men thought that the assistance could come from anyone around the area while women seem to ask for help from their parents more than men. (Details as shown in Table 10)

Table 10 **Number and Percentage Distribution of Opinion of Persons with Visual Impairment Regarding the Dependable Source Classified by Sex**

Person to Depend on	Male		Female		Total	
	n	%	*n*	%	*n*	%
Parents	8	14.0	7	25.0	15	17.6
Siblings	5	8.8	5	7.9	10	11.8
Relatives	4	7.0	2	7.1	6	7.1
Normal-sighted friends	10	17.5	4	14.3	14	16.5
Anyone in that particular area	28	49.1	7	25.0	35	41.1
Others	2	3.5	3	10.7	5	5.9

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2.3. Perspective of Persons with Visual Impairment about Advantages of O&M Training

After studying about the population's perspective on importance of taking O&M training Courses at Skills Development Center for the Blind and The Sampran Rehabilitation and Vocational Training Center for Blind Women, the result revealed that the Protection Technique was the most practical skill for them ($\bar{X}$ = 4.02), followed by Street Crossing ($\bar{X}$ = 3.93), Dropped Objects ($\bar{X}$ = 3.88), Stairways ($\bar{X}$ = 3.85), Shorelining on Sidewalks ($\bar{X}$ = 3.84), Using Public Buses ($\bar{X}$ = 3.81), Trailing ($\bar{X}$ = 3.71), Sensory Awareness ($\bar{X}$ = 3.69), Examining Objects ($\bar{X}$ = 3.69), Sighted Guide Technique ($\bar{X}$ = 3.67), and Accepting and Refusing Aids ($\bar{X}$ = 3.58). Riding a Car/Taxi ($\bar{X}$ = 3.07) was given medium priority, Embarking-Disembarking the Public Boats ($\bar{X}$ = 1.94) low priority, and Taking a Sky Train as well as Elevators the lowest priority ($\bar{X}$ = 1.44 and $\bar{X}$ = 1.14 respectively).

Most male population, placed high priority for Protection Technique ($\bar{X}$ = 4.02), whereas female gave high priority on the Street Crossing ($\bar{X}$ = 4.07). (Details as shown in Table 11)

Table 11 **Comparison of Perspective about O&M Contents between Male and Female who had Visual Impairment Classified by Sex**

Subject	Male (N = 57)		Female (N = 28)		Total (N = 85)	
	$\bar{X}$	SD.	$\bar{X}$	SD.	$\bar{X}$	SD.
Protection Technique	4.02	.90	4.04	.74	4.02	.84
Street Crossing	3.86	1.17	4.07	.94	3.93	1.10
Dropped Objects	3.81	.91	4.04	.58	3.88	.82
Stairways	3.89	.86	3.75	.75	3.85	.82
Shorelining on Sidewalks	3.95	.83	3.61	1.23	3.84	.99
Using Public Buses	3.89	1.03	3.64	1.42	3.81	1.17
Trailing	3.61	1.06	3.89	.50	3.71	.92
Sensory Awareness	3.68	1.45	3.71	1.21	3.69	1.37
Examining Objects	3.68	1.07	3.71	.76	3.69	.98
Sighted Guide Technique	3.61	.82	3.79	.88	3.67	.84
Accepting and Refusing Aids	3.67	.87	3.39	.92	3.58	.89

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Table 11 **Comparison of Perspective about O&M Contents between Male and Female who had Visual Impairment Classified by Sex (continued)**

Subject	Male (N = 57)		Female (N = 28)		Total (N = 85)	
	$\bar{X}$	SD.	$\bar{X}$	SD.	$\bar{X}$	SD.
Riding a Car/Taxi	2.93	1.64	3.36	1.25	3.07	1.53
Embarking-Disembarking the Public Boats	2.16	1.85	1.50	1.99	1.94	1.91
Taking the Sky Train	1.86	1.81	.57	1.29	1.44	1.76
Elevators	1.23	1.68	.96	1.64	1.14	1.66

When asking about the benefit of receiving O&M training, almost all of the population (97.6%) agreed that their lives had changed in the positive direction. Only 2.4 percent reported did not have any change. When classified by sex, most male and female did not differ significantly in their opinion. (Details as shown in Table 12)

When considering sequences of change reported by the population item by item, it was found that the first priority of positive change was feeling more independent in performing daily routines (92.9%) and better understanding of routes used in daily lives (92.9%). Next were being confident of own abilities (89.4%). Next were being more accepted by the society (67.1%), feeling more accepted by the family (62.4%), feeling healthier (60.0%), and others such as having better personality and feeling safe (12.9%) .

Most male, when classified by sex, felt more independent in performing their daily routines (94.7%) while female felt that they understood the routes used in their daily lives better (96.4%). (Details as shown in Table 12)

Table 12 **Comparison of Change in the Perception of Male and Female with Visual Impairment (can choose more than one item)**

Rank	Changing Point	Male (N = 57)		Female (N = 28)		Total (N = 85)	
		n	%	*n*	%	*n*	%
	Without change	2	3.5	0	0.0	2	2.4
	With change	55	96.5	28	100.0	83	97.6

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Table 12 **Comparison of Change in the Perception of Male and Female with Visual Impairment (can choose more than one item) (continued)**

Rank	Changing Point	Male (N = 57)		Female (N = 28)		Total (N = 85)	
		n	%	*n*	%	*n*	%
1	More independent to perform daily routines	54	94.7	25	89.3	79	92.9
2	Understand routes used in life	52	91.2	27	96.4	79	92.9
3	Confident of own ability	51	89.5	25	89.3	76	89.4
4	More accepted by society	39	68.4	18	64.3	57	67.1
5	Feel more accepted by family	34	61.4	19	57.1	53	62.4
6	Feel healthier	35	59.6	16	67.9	51	60.0
7	Others	6	0.5	5	17.9	11	12.9

2.4. Application of O&M into Daily Lives

Most number adopted O&M techniques during the training at the centers as reported by the population were Touch Technique (45.9%), Protection Technique (38.8%), Trailing (28.2%), Sensory Awareness, (27.1%), Using public buses, cars, and motorcycles (7.1%), and Accepting and Refusing Aids (4.7%). (Details as shown in Table 13)

Table 13 **Rank of Technique Used by Persons with Visual Impairment at the Training Centers (can answer more than one item)**

Rank	Techniques Used at the Centers	Male (N = 57)		Female (N = 28)		Total (N = 85)	
		n	%	*n*	%	*n*	%
1	Touch Technique	31	54.4	8	28.6	39	45.9
2	Protection Technique	21	36.8	12	42.9	33	38.8
3	Trailing	11	19.3	13	46.4	24	28.2
4	Sensory Awareness	14	24.6	9	32.1	23	27.1
5	Riding a car/motorcycle	3	5.3	3	10.7	6	7.1
6	Accepting and Refusing Aids	2	3.5	2	7.1	4	4.7

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Techniques most commonly applied by the visually impaired population at home were Touch Technique (16.5%), Sensory Awareness (12.9%), Accepting and Refusing Aids (12.9%), Protection Technique (8.2%), Trailing (7.1%), and Riding a Car/Taxi (4.7%). (Details as shown in Table 14)

When classified by sex, it is found that during their stay at the centers most male population used Touch Technique (54.4%) while the female used Trailing (46.4%). At home, Touch Technique was most frequently used by most male (22.8%) and Trailing for most female (17.9%). (Details as shown in Table 13 and 14)

Table 14 **Rank of Technique Used by Persons with Visual Impairment at Homes (can answer more than one item)**

Rank	Techniques Used at the Homes	Male (N = 57)		Female (N = 28)		Total (N = 85)	
		n	%	*n*	%	*n*	%
1	Touch Technique	13	22.8	1	3.6	14	16.5
2	Sensory Awareness	7	12.3	4	14.3	11	12.9
3	Accepting and Refusing Aids	9	15.8	2	7.1	11	12.9
4	Protection Technique	3	5.3	4	14.3	7	8.2
5	Trailing	1	1.8	5	17.9	6	7.1
6	Riding a car/motorcycle	2	3.5	2	7.1	4	4.7

When traveling to unfamiliar places, most of the visually impaired persons (67.1%) reported that they had used O&M technique. Only 5.9 percent reported that they never used O&M technique in the unfamiliar places. Male reported using O&M technique more often than female in the unfamiliar places (75.4% compared to 50.0%). (Details as shown in Table 15)

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Table 15 **Number and Percentage Distribution of Persons with Visual Impairment Classified by Usage of O&M Techniques in Unfamiliar Places and Sex**

Usage of O&M technique	Male (N = 57)		Female (N = 28)		Total (N = 85)	
	n	%	*n*	%	*n*	%
Not at all	3	5.3	2	7.1	5	5.9
Sometimes	11	19.3	12	42.9	23	27.1
Most of the time	43	75.4	14	50.0	57	67.1

O&M techniques used by the population in their unfamiliar places in number of usage order were: Touch Technique (49.4%), Accepting and Refusing Aids (43.5%), Sensory Awareness (25.9%), Sighted Guide Technique (12.9%), Using Public Buses (10.6 %), and Riding a Car/Taxi (2.4%). When classified by sex, most male used Accepting and Refusing Aids (49.1%) and Touch Technique (45.6%) while most female used Touch Technique (57.1%) and Accepting and Refusing Aids (32.1%). (Details as shown in Table 16)

Table 16 **Rank of O&M Technique Used by Persons with Visual Impairment in the Unfamiliar Places**

Rank	Subject	Male (N = 57)		Female (N = 28)		Total (N = 85)	
1	Touch Technique	26	(45.6)	16	(57.1)	42	(49.4)
2	Accepting and Refusing Aids	28	(49.1)	9	(32.1)	37	(43.5)
3	Sensory Awareness	17	(29.8)	5	(17.9)	22	(25.9)
4	Sighted Guide Technique	6	(10.5)	5	(17.9)	11	(12.9)
5	Using Public Buses	7	(12.3)	2	(7.1)	9	(10.6)
6	Riding a Car/Taxi	0	(0.0)	2	(7.1)	2	(2.4)

2.5. Persons with Visual Impairment's Perspective on an Independent Living

For this study, the researcher has also asked persons with visual impairment's opinions about their understanding of the term "independent living" and found out that

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the male and female had defined it similarly. There were 6 males and 12 females who did not have any comment. Definitions made by them can be categorized as follows**:**

1. To lead one's life, be self-assisted without depending on other people. One of them who is male described it as**:**

> *An ability to lead one's life without depending on anyone and anybody's help, depend on self-assistance.*

And the female visually impaired described it as**:**

> *To live one life by having as much self-help as possible based on what one thinks.*

2. To spend life freedomly, think and make a decision by oneself, and have confidence. The male visually impaired said that an independent living was:

> *To live one life with self-confidence, and be confident in what one does.*

While the female described it as**:**

> *To spend a freedom life, have freedom in any decision-making, do things by oneself in terms of work and study, are able to go places, and think and act by oneself.*

3. To live in the society the way one wishes under the social rule that does not harm oneself or other people. The male visually impaired defined it as**:**

> *An ability to live on one's own but this does not mean that one can do anything; one must not cause anyone's troubles, and be discriminated.*

4. To have a way of living according to self-determination, with no obligation and rule or restriction. The male visually impaired described it as**:**

> *A free-living life, without many obligations, rules or restrictions, one is able to do as one pleases and not being exploitative.*

And the female visually impaired described it as**:**

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Living on one's own, doing things on one's own without being controlled by anyone e.g. find things that one wants and wants to have by oneself.

5. To have a job, be self-responsible, not be a burden to the society, and able to help others. The male visually impaired described it as:

An act that one's free to do anything, to have any career without troubling others, an act of sitting comfortably or an ability to do any little things for hobbies.

And the female visually impaired described it as:

An ability to live like an ordinary person in the society, live a life that one really wants - namely work and perform daily routines by oneself and not being a burden to others, travel independently, protect oneself from any dangers in the society, and able to help others.

6. To travel to any places on one's own and depend on others as little as possible. The male visually impaired described it as**:**

An independent travel without worrying one's parents and having own career.

While the female visually impaired described it as**:**

A desire to do things on one's own but help from other people is needed in some cases.

7. A comfortable life without demanding assistance from anyone. The male visually impaired described it as:

An act of living one's life, being, eating in a daily life that is as comfortable as usual but without sight, no need to ask for anyone's help when at home, for example, able to turn on the TV by oneself.

And the female visually impaired described it as:

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A comfortable life, standing on one's own, and not depending on others.

8. To be equal and have the same life as anybody else. The male visually impaired described it as**:**

Freedom, equality, and living the same life as ordinary people.

According to the definitions above saying that "Independent Living" is when a person have a life that permits he/she to make his/her own decision, have courage to confront and deal with his/her problems, and be responsible for his/her choices by accepting help in the society as it should be under the cultural and traditional frame of Thai society, almost every population agreed with it (96.5%); only few disagreed (3.5%). When classified by sex, most male and female did agree with it (96.5 and 96.4% respectively). (Details as shown in Table 17)

Table 17 Number and Percentage Distribution of Persons with visual Impairment Classified by Perspective on the Definition of "Independent Living" and Sex

Subject	Male (N = 57)		Female (N = 28)		Total (N = 85)	
	n	%	*n*	%	*n*	%
Disagree	2	3.5	1	3.6	3	3.5
Agree	55	96.5	27	96.4	82	96.5

Section 2: Results of the Study and Interviews of O&M Instructors

According to the collection of questionnaires and additional interview methods concerning perspective of seven O&M instructors at Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women, the results are:

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Part 1: O&M Instructors Personal Data

Based on the survey, there are seven (5 females and 2 males) O&M instructors at Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women. The youngest one was 21 years old and the oldest one was 63 years old. The average age was 43.00 (median age was 42.00). Three are from Skills Development Center for the Blind and the other four are from the Sampran Rehabilitation and Vocational Training Center for Blind Women.

Two instructors had a bachelor degree, 4 had lower than higher education, and one had an associate diploma. Two had worked with O&M for a year. The rest had worked with it for 2, 5, 6, 8, and 19 years. Mean is 6 years. There is only one who has the longest years of O&M experiences, which is 21 years, 2 have 20 years, and the rest have 2, 5, 12, and 19 years of experiences. Average working years is 14.14

Two instructors are currently responsible for O&M teaching, one is an O&M co-instructor and teaches ADL, another is an O&M co-instructor and teaches Physical Education, the other 3 teaches other subjects other than O&M.

Before joining the centers, five have never studied or been trained on O&M while two have. While working at the present sites, three have had additional O&M training and four have not. Before working at these centers, six have never studied or been trained on education for the visually impaired. Only one has had it included in the course taken. Four have never been exposed to the persons with visual impairment. One has never had any experience about it but has heard of it from different types of media. One has children/relatives or a person under supervision who is visually impaired and one has taught persons with visual impairment before.

Before working as O&M instructors, four have never taught O&M before, two have been an O&M co-instructor and one has taught it before.

Part 2: Opinion about Advantages of O&M training for Persons with Visual Impairment

Data description on O&M teaching are classified, by the researcher, into 5 aspects as:

2.1. Definition of “O&M”

2.2. Objectives of O&M teaching

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2.3. Significance of O&M course contents

2.4. Development and learning efficacy of O&M training

2.5. Implementation of O&M in daily living and independent living of persons with visual impairment

2.1. Definition of "O&M"

Each instructor described it as a freedom and independent travel using the appropriate method. Some of them also included a self-help capability in it. An example of O&M given by the female instructor is: -

> *O&M is learning about how to use the body movement by having the sighted guide and an independent movement by oneself to make the travel in each surroundings easier because with the proper basic movement one can adjust oneself to any place.*

Another example of O&M defined by the male instructor is: -

> *O&M is to teach persons with visual impairment how to move independently and safely in any surroundings by using the cane so they can travel the right way with normal people.*

2.2. Objectives of O&M Teaching

An inquiry about the need to have O&M training for persons with visual impairment shows that instructors of the two centers agreed that O&M training is essential to everyone with visual impairment.

Furthermore, the study shows every instructor's support that persons with visual impairment needed to have O&M training. They reasoned similarly that O&M would encourage persons with visual impairment to travel to places independently, safely, and confidently on their own without being a burden to other people. It also benefited their daily living. One of the male instructors has given quite an interesting reason as:

> *It is highly important to them because it allows their body to move. Once their body move, everybody functioning system works*

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normally, their mental condition relax and they can efficiently create/perform each task in their daily living and live in the society.

Objectives of O&M teaching for visually impaired student have been provided by the instructors in the following Sequences: to travel or move correctly and safely in normal gaits and posture (6 instructors), to have an independent living and not being a heavy burden to other people (4 instructors), to boost self-confidence and take pride in oneself (3 instructors), to live happily in the society the same as anybody else (3 instructors), to actively perform each activity and task (1 instructor), to adjust to the suitable surroundings, (1 instructor), and to practice how to use the sensory awareness through listening, touching, and smelling (1 instructor). (Details as shown in Table 18)

Table 18 Rank of Instructor's Opinion on O&M Objectives Setting

Rank	Objectives
1	To travel or move correctly, safely in normal gaits and posture
2	To have an independent living, not being a burden to others
3	To boost self-confidence and pride
4	To live happily in the society the same as anybody
5	To actively perform activities and task
6	To adjust to the suitable surroundings
7	To practice how to use sensory awareness through listening, smelling, and touch

2.3. Significance of O&M Course Contents

Of three O&M instructors, the first one reported that many hours had been given to each lesson throughout the course under the subjects of Using Public Buses (5 hours), Sighted Guide Technique (3 hours), Shorelining on Sidewalk (3 hours), Street Crossing (3 hours), and Taking a Sky Train (2 hours). Other lessons took one hour each; which are Sensory Awareness, Examining Objects, Dropped Objects, Protection Technique, Stairways, Trailing, Riding a Car/Taxi, and Accepting and Refusing Aids.

The second instructor reported that many hours had been spent on Shorelining on Sidewalk (24 hours) and Sighted Guide Technique (12 hours). Other lessons that

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had been given fewer hours were Sensory Awareness, Examining Objects, Dropped Objects, Protection technique, Stairways, Trailing, Using Public Buses, Riding a Car/Taxi (6 hours per class), Accepting and Refusing Aids (2.5 hours), and Street Crossing (2 hours).

The third instructor reported that many hours were spent on Shorelining on Sidewalk, Street Crossing, Using Public Buses (20 hours per class), Sensory Awareness (14 hours), Riding a Car/Taxi and Taking a Public Boats (5 hours each), and others (4 hours for each class).

When taking into account the individual perspective mean regarding importance of each lesson content, six instructors had given the most important to the following (shown in descending orders): Sensory Awareness), Shorelining on Sidewalk, Examining Objects, Protection Technique, Trailing, Stairways, Using Public Buses, Sighted Guide Technique, Street Crossing. They have given medium importance to Dropped Objects, Riding a Car/Taxi, Accepting and Refusing Aids, and Embarking-Disembarking Public Boats. What have been given low level of importance are Elevators and Taking a Sky Train. (Details as shown in Table 18)

Table 19 **Numbers of Instructors Classified by the Perspective about the Level of Importance of Each Lesson Content in O&M Teaching**

Content	Level of Importance (N=6)		
	High	Medium	Low
Sensory Awareness	6	-	-
Shorelining on Sidewalk	6	-	-
Examining Objects	5	1	-
Protection Technique	5	1	-
Stairways	5	1	-
Trailing	5	1	-
Using Public Buses	5	1	-
Sighted Guide Technique	4	2	-
Street Crossing	5	-	1
Dropped Objects	3	3	-
Riding a Car/Taxi	3	3	-
Accepting and Refusing Aids	2	3	1
Embarking-Disembarking Public Boats	1	3	2
Elevators	-	3	3
Taking the Sky Train	1	2	2

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2.4. Development and Learning Efficacy Derived from O&M training

Seven instructors reported the learning efficacy of visually impaired students who had had O&M training for at least 1 course as: they have high level of development in every aspect, considering by the individual perspective on skill development as follows: Independent Living, Motor Development, Gait and Posture, Sensory Awareness, Social and Emotional Development, Attitude towards Self and Work, Auditory Development, Body Concept, and Concept Development. (Details as shown in Table 20)

Table 20 **Number of O&M Instructors Classified by their Opinion about the Skill Development of the Visually Impaired after Receiving O&M Training**

Skill	Level of Development (N=7)				
	Highest	High	Medium	Low	Lowest
Independent Living	3	4	-	-	-
Motor Development, Gait, and Posture	3	3	1	-	-
Sensory Awareness	1	6	-	-	-
Social and Emotional Development	2	3	2	-	-
Attitude towards Self and Work	1	5	1	-	-
Auditory Development	-	6	-	1	-
Body Concept	1	2	4	-	-
Concept Development	-	4	3	-	-

As for experiences regarding teaching O&M to persons with visual impairment at different ages, for instance, one who is below 20 and one who is over 40, six instructors reported that some were similar, such as objectives, but the teaching methods focused on different skills. Only one instructor reported that the course, the teaching method, and objectives were the same.

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2.5. Implementation of O&M into the Daily Living and Independent Living of Persons with Visual Impairment

The study shows that every instructor supports the idea that persons with visual impairment who has taken O&M course in the past could apply it to their daily living and independent living very well. One of the female instructors put it as:

> *Those who finish the course can travel to places by themselves and do not have to depend on the sighted guide all the time. They can ask for the bus number, address, place they want to go, and can live their lives the same as people with normal sight.*

Whereas one of the male instructors noted that:

> *According to my previous experiences, the blinds who had not have any training and stayed with us at the center, in the beginning, they could not move about, many of them needed to be taken to the restroom, to the canteen. However, after the training, they could travel outside of the building, go to the market, to the public place, and could work independently and safely.*

The sequences of perspective on applying O&M into persons with visual impairment in daily living are: five O&M instructors said that persons with visual impairment could perform ADL within their houses the same as those without disability and could travel safely to the unfamiliar places such as traveling home, going shopping alone, going to the bank, going sightseeing, and using public places. Four instructors said that they could travel to places on their own without the constant need of the sighted guide. Three instructors said that they could work and make a living independently. One instructor said that they could participate in any group of society. One also said that they were proud of not being a burden to other people. And one instructor said that they process a good cane skill. (Details as shown in Table 21)

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Table 21 **Rank of Perspective of the Instructors on the Implementation of O&M in Persons with Visual Impairment in their Daily Living**

Rank	Perspective
1	Perform ADL in the house the same as normal people
2	Travel safely to any unfamiliar places
3	Travel independently to places without constant need to the sighted guide
4	Able to work and have a career freely
5	Able to participate in any group of society
6	Be proud of not being other people's burden
7	Possess a good cane skill

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CHAPTER V
CONCLUSION AND DISCUSSION

This qualitative and quantitative research intends to explore the perspective of persons with visual impairment and instructors on Orientation and Mobility (O&M) training at the Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women in terms of problems and needs of the visually impaired, purpose of O&M training, advantages, and application into the visually impaired's daily lives.

Data collection was made in February B.E. 2546 by individual inquiries (single interview) of 85 visually impaired who are the selected populations. After their answers had been tape-recorded, they were transcribed and transferred into the questionnaire to obtain full and complete answers. Seven O&M instructors were given open-ended questionnaire and interviewed additionally to attain in-depth information. Data was then analyzed using descriptive statistics in forms of frequency, percentage, mean, and standard deviation. It was compiled and presented in an essay description format.

Conclusion and Discussion

A survey of perspective of persons with visual impairment and instructors on O&M training can be summarized and discussed as follows:

1. A survey of perspective of people with visual impairment on O&M

1.1. Personal Data of Persons with Visual Impairment

The populations contain more male visually impaired from Skills Development Center for the Blind than the female from the Sampran Rehabilitation and Vocational

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Training Center for Blind Women (67.1 and 32.9% respectively). The age of the selected population varies significantly from the youngest of 15 and the oldest of 45, having the mean of 27.40 years old. The majority have primary education and non-formal secondary education (38.8 and 38.8%). More than half (71.8%) of the population have congenital disabilities (55.3%). Most of adventitious disabilities occur during the age of 16-20 (11.8%). The majority is single (89.4%). More than half come from the northeast of Thailand (36.5%), such as Burirum and Surin province. Half are from families having an agricultural background, such as farmer, cultivator, rubber planter (50.6%). Most of persons with visual impairment admit that they are well and democratically brought up and self-expression (76.5%).

According to the study, 28.6 percent of the visually impaired spend more than 24 months at the Sampran Rehabilitation and Vocational Training Center for Blind Women due to different training periods of the two centers. O&M training at the Sampran Rehabilitation and Vocational Training Center for Blind Women takes 3-5 years whereas the Skills Development Center for the Blind takes only 2 years (Foundation for the Blind in Thailand Under the Patronage of H.M. the Queen, B.E. 2542 : 51 - 52).

1.2. Perspective of Persons with Visual Impairment on O&M Training

1.2.1. Objectives Setting of O&M Training for Persons with Visual Impairment

This survey shows that half of persons with visual impairment from both centers are not familiar with O&M (51.8%). Those who are introduced and have been trained on O&M before attending the training at Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women (44.7%) have received the training at schools and centers for the blind, such as, the Bangkok School for the Blind, the Redemptorist School for the Blind, Amnat Charoen Welfare School, School for the Blind at Lampang province, Northeastern Rehabilitation Center for Disabled Ubonratchatani, Thai Traditional Massage Training Project for the Blind and Underprivileged Female in Rural Areas (World Bank Project), Her Majesty's 60th Birthday Anniversary Social Welfare Service Center at Lopburi province, and so forth. It can be seen from the results that more than half

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(54.1%) of persons with visual impairment have set their O&M training objectives before attending the training, which are to travel as independently as possible, to learn how to walk with the appropriate method, to have additional knowledge on White Cane Technique, and to practice daily life activities. However, they also have other main objectives rather than O&M training. They are vocational training and Braille study. These objectives are relevant to the program guidelines defined by the two centers.

The study which indicates that more than half of the visually impaired have never been introducing to O&M before coincides with the above survey of personal data saying that the visually impaired may have acquired their disabilities later in life during the age of 16-20 or more. Whilst others might have never attended any schools for the blind and this is why they are unfamiliar with O&M. And some might have learned O&M technique but did not know its correct technical term because the instructors and the visually impaired usually call it differently such as “Cane Travel” or “OM Skill”.

1.2.2. Problems and Needs of Persons with Visual Impairment Regarding Travel and Activities of Daily Living (ADL)

The study of problems and needs for travel and ADL of the visually impaired indicates that after receiving O&M training from the center, the minority of male and female with visual impairment have acquired both indoors and outdoors travel problems (45.9%) and ADL problems (23.5%). The point of consideration of this survey is that even though the female have more travel problems than the male, they have less ADL problems. Perhaps, it is due to nature and culture of the male and female upbringing in the Thai society that focuses on inculcating the male to become the leader of the family and to work outside while the female are in charged of the home chores. Additionally, the training curriculum of the two centers concentrates on different matters. While the skills Development for the Blind emphasizes on White Cane Technique for the male, the Sampran Rehabilitation and Vocational Training for Blind Women focuses on ADL training for the female.

However, the survey shows that the majority of male and female with visual impairment want to travel more independently. The populations think that they still

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need independent living under some circumstances, and dependence when necessary. The male population mainly requires assistance from anyone in that particular area and their normal sighted friends whereas the persons whom most female populations want to depend on are parents, anyone in that particular area, and siblings. It should be noted that, based on the above, the majority of the female still want to live with their family or parents. Another reason to support this is that naturally female are very timid, considerate, and rarely trust the stranger for assistance.

1.2.3. Advantages of O&M Training for Persons with Visual Impairment

The study of essential techniques for persons with visual impairment indicates that techniques as Protection Technique, Street Crossing, Dropped Objects, Stairways, Shorelining, Using Public Buses, Trailing, Sensory Awareness, and Examining Objects are very useful for their travel. Moreover, after having received 6 months of O&M training, 97.6 percent of them have great improvement especially on their daily routine independency, understanding of their daily routes, and confidence in their abilities.

The above survey is highly consistence with the study of Samart Rattanasakorn (B.E 2545 : D, 4) about the relationships between independent living and ADL, social skill, O&M, and communication skill of persons with visual impairment living in Bangkok and its perimeter. In addition, it also coincides with the study of Codina and et al. (1994 : A7) that found the internal basic relationships between O&M and ADL skills of the blind and low vision populations.

1.2.4. Application of O&M into the Daily Lives

Persons with visual impairment from both centers reported that they were able to apply O&M techniques with their travel inside the centers, their return to their hometowns, and their travel to unfamiliar places. Techniques they selected are Touch Technique, Protection Technique, Sensory Awareness, Accepting and Refusing Aids, Trailing, Sighted Guide Technique, and Using Public Buses. The study shows no significant difference between perspectives of both gender.

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1.2.5. Persons with Visual Impairment's Perspective on an Independent Living

In this survey, persons with visual impairment were inquired about the meaning of "Independent Living". Both male and female populations defined it similarly while 6 male and 12 female had no comments. According to them, independent living may be described as:

1. To lead one's life, self-assisted without dependeding on other people,
2. To spend life freedomly, think and make a decision by oneself, and have confidence,
3. To live in the society the way one wishes under the social rule that does not harm oneself or other people,
4. To have a way of living according to self-determination, with no obligations and rule,
5. To have a job, be self-responsible, not be a burden to the society, and able to help others,
6. To travel to any places on one's own and depend on others as little as possible,
7. A comfortable life without demanding assistance from anyone,
8. To be equal and have the same life as anybody else.

It can be seen that the definitions above correspond with some of the definitions made by the researcher and they are also relevant to the Foundation for the Blind in Thailand's vision "To be a leader in rehabilitation, promotion, and development of potential of male, female, blind children in Thailand to enable them to maintain an independent living and assist other with dignity and pride".

2. Survey of Instructors Perspective on O&M

2.1. Personal Data of O&M Instructors

According to the study, the majority of the instructors are female at the minimum age of 21 and a maximum of 63. The average age is 43.00 years old. The majority are a school graduate with the minimum O&M working experience of one year and a maximum of 19 years, having the mean of 6.00 years, and have the minimum working experience with persons with visual impairment of two years and

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the maximum of 21 years, having the mean of 14.14 years. Currently, only two of the instructors teach O&M full time at the Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women. Another two are co-instructors who teach the skills and other activities. The last three instructors, who have taught O&M before, teach other subjects.

Only two O&M instructors have had experiences with persons with visual impairment before joining the centers and they mostly have never been trained on or received any additional O&M training after taking this job. O&M teaching responsibilities differ in terms of number of students in charged, teaching time, and average duration of the program. However, it all depends on the responsibilities as an instructor. The minimum numbers of students in charged per day are 4 persons and the maximum are 20 persons. Minimum teaching hours per day are 3 hours, 2 days a week, while maximum teaching hours are 6 hours, 5 days a week. Longest duration of the program is 200 days which is equivalent to one educational year of the study in the regular school.

2.2. Opinion about Advantages of O&M Training for Persons with Visual Impairment

2.2.1. The definition of "Orientation and Mobility Skill"

Most instructors defined "Orientation and Mobility" similarly to the definition made by the researcher. Some of their definitions also cover a self-assistance ability. However, based on their opinions, mobility in the environments is still restricted to two major approaches: White Cane Technique and Sighted Guide Technique, which are the techniques commonly practiced by most visually impaired in Thailand.

2.2.2. Objectives of O&M Teaching

The study on perspective of instructors on the visually impaired's needs for O&M training indicates that all of the instructors supported O&M training be necessary to persons with visual impairment. They reasoned similarly that O&M would give persons with visual impairment courage to travel to places independently, freely, safely, and confidentially without becoming a burden to other people. It also benefited their daily living in a way that they could move or travel accurately and

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safely in normal gait and posture. It also increased their confidence, self-respect and allowed them to be mainstreamed in the society the same as the normal persons. These also agree with advantages of O&M learning suggested by the instructors.

2.2.3. The Significance of O&M contents

Three of the O&M instructors reported that the longest number of hours of each lesson had been given to these techniques---Shorelining, Street Crossing, Using Public Buses, Sighted Guide Technique, and Sensory Awareness. Other subjects that had been given less hours are Examining Objects, Dropped Objects, Protection Technique, Stairways, Trailing, Riding a Car/Taxi, and Accepting and Refusing Aids. Their reports are in accordance with the contents stated in O&M (Cane Technique) B.E. 2538 adopted by both centers throughout the program (Skills Development Center for the Blind, n.d. : 3-7).

The perspective on significance of each lesson contents shows that six instructors have given their highest priority to the followings: Sensory Awareness, Shorelining on Sidewalks, Examining Objects, Protection Technique, Trailing, Stairways, Using Public Buses, Sighted Guide Technique, and Street Crossing. The moderate priority was given to Dropped objects, Riding a Car/Taxi, Accepting and Refusing Aids, and Taking Public Boats, and the lowest priority was given to Elevators and Taking the Sky train.

2.2.4. Developments and Learning Efficacies of O&M Training

The best assets from O&M learning reported by the instructors are independent living, motor development, and gait and posture. The medium assets are sensory awareness, social and emotional development, and attitudes towards self and work. This is relevant to Nancy Higgins' survey (1999 : 561-577). She found that the parents believe that O&M is essential for the growth and development of children with visual impairment and it also corresponds with Carol Yakura's study (1994).

Additionally, the majority of instructors thought that objectives of O&M teaching to the visually impaired at different ages should be the same but the skills might be focused differently between the younger-than-20-year-old group and the older-than-40-year-old group. Their ideas are supported by suggestions made by Allen

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and et al. (1977 : xxi-xxiii) saying that the curriculum for teaching the old visually impaired must be adjusted to be suitable for an individual student and attempt must be made to allow the students learn new skills and benefit the most from the rehabilitation.

2.2.5. Implementation of O&M with Daily Living and Independent Living of Persons with Visual Impairment

The interesting point of this study is that every instructor agrees that persons with visual impairment who have completed O&M training in the past are able to apply it well to their daily living and they also have independent living.

The above opinions are in line with Welsh's Psychosocial Dimension (Welsh, In Blasch, et al., Eds., 1997 : 200-227) concerning with mobility and adjustment of persons with visual impairment, which are all related to feelings of independent living, motivations towards rehabilitation and abilities to deal with problems that may occur during the travel.

Limitations of the Research

1. The practice period in the educational year that data was collected does not permit the visually impaired to receive full training according to the scope, contents, and numbers of hours stated in the centers' curriculum because the instructors were occupied with other mission assigned by the centers. This, therefore, might affect the population's perspective on matters like significance of each lesson, O&M training advantages, and its application.

2. The improper interview method made by the research assistants as well as the limited time for data collection since it is done near the end of the educational year of both centers. Those who attended the training were going back to their hometowns so the information obtained was only the primary one and it is not possible to repeat the interview of some that is in-depth information.

3. The qualifications of the instructors, such as, receiving O&M pre-service training, the instructors' experiences, level of education, and socialization of the visually impaired populations may affect their understanding of questions and correct words summarization, the visually impaired's applications of the skills and O&M attitudes or perspective in particular.

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4. The number of female populations in this study is much less than the male and it may affect the statistical data analysis when the comparison is made on perspective between genders.

5. The research instrument tryout with persons with visual impairment completed the course at the two centers. There are too few sampling in this research (10 people). The recommendation is that there should be a second tryout with another 10 sampling so that the interview instrument can be more efficient.

6. Precision or reliability of the research instrument has not been calculated in figures (r value) due to there are many open-ended questions for the visually impaired to answer as freely as freely and possible. There are no true or false answers.

7. An in-depth data collection takes time and the interviewer who has never worked with persons with visual impairment or been trained about them will not be able to collect in-depth information from the population when the questions are open-ended, such as application of the skills learned, reasoning and true reasons for applying or not applying them.

Recommendations of the Research

1. O&M curriculum Based on the curriculum offered by the Skills Development Center for the Blind and by other Asian countries, it should be a short course of 100 days (4 months) to a long course of 200 days (8 months), with the theories and practicum included. Number of hours of each subject arranged by the instructors for the 15-45 year old visually impaired should not be fixed but adjustable based on their individual needs which vary according to gender, age, type of disability, age of onset, level of education, and domicile of their families. At least the entire course should cover 250 hours. Differences of a person will serve as basic data for the instructors and rehabilitation centers that O&M course is available. It can be used to define their preliminary objectives of O&M training for persons with visual impairment and will lead to a further development of contexts in the O&M course. O&M curriculum should cover at least 12 major subjects: Sensory Awareness, Examining Objects, Dropped Objects, Protection Technique, Sighted Guide Technique, Accepting and Refusing Aids, Stairways, Trailing, Shorelining on Sidewalk, Street Crossing, Using Public Buses, Riding a Car/Taxi.

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What is interesting is that O&M and ADL are always developed together in order to make the teenage persons with visual impairment learn until they can live independently in their adulthoods. O&M curriculum for the skills development centers in Thailand should, therefore, include ADL as part of the contexts the same as O&M curriculum in New Zealand, Ratchasuda College, the Skills Development Center for the Blind, and the Sampran Rehabilitation and Vocational Training Center for Blind Women that have been developed and offered to the visually impaired. ADL course can be separated as another subject and is taught in parallel with O&M, for example, at Rajabhat Insitutes which offer a Bachelor's Degree in Special Education.

2. O&M training for an early intervention The research shows that most persons with visual impairment have congenital disabilities and come from upcountry, especially from the areas that are far away from the service centers. Therefore, they did not receive any early intervention. The provision of O&M training should, therefore, focus on basic training for the visually impaired's parents so that their can teach their children good ADL while they are still young so they can have appropriate development, as well as educational, vocational opportunities and enjoy independent living once they grow up.

Persons with acquired visual impairment deserve basic O&M training from the specialists, as attitudes, self-acceptance, and self-confidence are important factors that require correct counseling of the O&M specialist that are suitable for each individual.

3. Interview methods and questionnaire Data collection using an individual interview (single interview) can save time and one interview should take 20-30 minutes. There should be two periods of data collection, late May or one semester after the training and before the training is over which is around October.

Selection and training for the research assistant is very necessary because it concerns the most accurate opinions expressed by persons with visual impairment. Selected persons should possess some basic knowledge about persons with visual impairment and O&M. Allow at least one day for training on instrument usage.

4. Selection of O&M instructors The agencies provided rehabilitation services to the visually impaired ought to select and recruit the candidates who possess positive attitudes to work with persons with visual impairment. They must take at least one O&M course, which contains 100 days (600 hours) of the theories and the practicum

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pertaining to international standard curriculum. The course should include White Cane Technique, Sighted Guide Technique, Electronics Devices, and ADL, which is the same as the course offered for the first time in B.E. 2527 by the Department of General Education, Ministry of Education. Besides, the instructors may have direct qualifications in O&M Program in the university level from Rajabhat Institutes or the postgraduate level from Ratchasuda College, Mahidol University.

While working as O&M instructors, they should be promoted and encouraged to develop themselves continuously by learning the new knowledge from the research work, skills training, and changing technologies for as least every three years. After that they can apply what they have learned to correctly and efficiently supervise persons with visual impairment as well as disseminate their knowledge to the other instructors.

5. Proper proportions of O&M instructors and students who are visually impaired While the visually impaired are being trained at the skills development center, their instructors should strictly teach them to use O&M techniques correctly to encourage self-realization, self-esteem, self-confidence, and self-respect. They should also be inculcated the good habit of indoors and outdoors cane technique. As a result, the proper proportion of the instructors and students should be 1:6 for the theories and 1:1 for the practicum. This is the right amount for students to learn more efficiently and safely and at the same time the instructors can attend to all of them during the practice process.

6. Application of O&M for persons with visual impairment The Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women should invite the visually impaired who have succeeded in applying O&M techniques into their daily lives and careers until they can live independently to share their experiences, expectations and give the visually impaired at the centers some good advices, for example, on the orientation day.

The Sampran Rehabilitation and Vocational Training Center for Blind Women should provide the female visually impaired with physical, gait and posture developments by exercising and sports pairing with O&M training. With this they will be healthy, have better personality and have appropriate social and emotional developments.

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7. Organizing the training project in the department level There should be collaboration among the government agencies, universities, and private organizations like CBM Thailand to organize a standard O&M training every other year or constantly and continuously in order to offer the private and public sectors teachers, who have not received such training, opportunities to be trained in order to increase personnel in this field. Courses should be offered to interested persons such as the visually impaired's parents, volunteers, or people with acquired visual disability.

Chalam Yam-iam (B.E.2546) has suggested that in one course it should take at least 60 hours: Sensory Awareness (16.7%), Examining Objects (8.3%), Dropped Objects (1.7%), Protection Technique (3.3%), Sighted Guide Technique (8.3%), Accepting and Refusing Aids (1.7%), Stairways (3.3%), Trailing (1.7%), Shorelining on Sidewalk (25%), Street Crossing (3.3%), Using Public Buses (10%), Riding a Car/Taxi (1.7%), Taking Public Boats (3.3%), Taking a Sky train (5%), and others (5%).

8. Opening of the regional rehabilitation service centers for the visually impaired According to the study on perspective of the populations at the Skills Development Center for the Blind and the Sampran Rehabilitation and Vocational Center for Blind Women, it was found that the majority of male and female visually impaired were from the northeast and from the agricultural families. Some of them had received O&M training from the schools or from the rehabilitation institutes for the blind but were still unable to live independently and had no career to support themselves so they returned and were trained at the two rehabilitation centers used in this survey until many of them gained more self-confidence. Therefore, the suggestions are there should be some improvement in the administrations and service operations of the Special Education Centers in 76 provinces and regional private rehabilitation centers. Special attention should be paid to O&M training management in conjunction with a career in agricultures and handicrafts. To do this will reduce the migration of persons with visual impairment and support their independent living in their hometowns.

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Recommendations for Further Research

This research intended to explore perspective on O&M of the teenages and adults with visual impairment and instructors at the Skills Rehabilitation for the Blind and the Sampran Rehabilitation and Vocational Training Center for Blind Women located in the vicinity areas of Nonthaburi and Nakhon Pathom province in the current situation. But the data collected could not be concluded as data of the population in the entire country, therefore further studies should be conducted on the followings:

1. Apply and improve this research instrument before utilizing a survey on perspective of the visually impaired at the rehabilitation centers available around the country, both in Bangkok and in the region, that belong to the private and governmental sectors in order to know their problems, needs, advantages, and application into their daily lives. It may be classified by gender, age of the visually impaired, types of disability, cause of disability, marital status, and so on.

2. Study the relationships between perspective of the blind and the low vision on O&M training.

3. Study the relationships between perspective of the congenital blind and the adventitious blind on O&M training.

4. Survey and study the case study of persons with visual impairment who use electronics travel devices in their daily living for the efficient O&M training.

5. Survey the relationships between the visually impaired and O&M instructors.

6. Survey qualifications and role of O&M instructors in Thailand, such as instructors who possess qualifications in Education for Persons with Visual Impairment and have received O&M training, that influence the learning efficiency of the visually impaired at different ages.

7. Study visions of the administrators of the rehabilitation centers for the blind and the relationships between developments shown by the visually impaired at the centers.

8. Study factors influencing O&M learning behaviors and independent living of persons with visual impairment, such as level of intelligence, upbringing by parents, motivation, and so on.

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APPENDIX A

Interview Form for Persons with Visual Impairment on O&M Training

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แบบสัมภาษณ์เพื่อสำรวจความคิดเห็นของคนพิการทางการเห็น เกี่ยวกับการฝึกทักษะความคุ้นเคยกับสภาพแวดล้อมและการเคลื่อนไหว

<u>คำชี้แจง</u>

1. ผู้สัมภาษณ์โปรดอ่านคำอธิบาย และวิธีตอบของแต่ละตอนให้ผู้พิการทางการเห็นฟังอย่างชัดเจนก่อนตอบ โดยเรียงลำดับข้อตามที่ให้แนวทางไว้เพื่อทำความคุ้นเคยกับผู้พิการ บันทึกข้อมูลทั่วไปตอนที่ 1 และใช้เทปบันทึกคำตอบที่เป็นความคิดเห็นของผู้พิการในตอนที่ 2

2. แบบสัมภาษณ์นี้ แบ่งออกเป็น 2 ตอน คือ

ตอนที่ 1 ข้อมูลส่วนบุคคลของผู้ตอบ จำนวน 12 ข้อ

ตอนที่ 2 ความคิดเห็นของคนพิการทางการเห็นต่อการฝึกทักษะความคุ้นเคยกับสภาพแวดล้อมและการเคลื่อนไหว จำนวน 12 ข้อ

3. แบบสัมภาษณ์นี้ต้องการทราบความคิดเห็นที่แท้จริงของท่าน เพื่อนำไปประมวลความคิดเห็นของคนพิการทางการเห็น ในช่วงอายุ 15 – 45 ปี ที่มีต่อการฝึกทักษะความคุ้นเคยกับสภาพแวดล้อมและการเคลื่อนไหวสำหรับคนพิการทางการเห็น ดังนั้น คำตอบของท่านจึงไม่มีถูกหรือผิด ดีหรือไม่ดี แต่อย่างใด

4. ผู้สัมภาษณ์ต้องอ่านคำจำกัดความให้ผู้พิการฟังเมื่อผู้พิการถาม และอ่านซ้ำถ้าผู้พิการขอร้อง

4.1. คนพิการทางการเห็น ในที่นี้คือ ผู้พิการทางการเห็นที่อยู่ในศูนย์พัฒนาสมรรถภาพคนตาบอดหรือศูนย์ฝึกอาชีพหญิงตาบอดสามพราน อายุ 15 - 45 ปี ไม่มีความพิการซ้อน และเข้าฝึกอบรมทักษะความคุ้นเคยกับสภาพแวดล้อมและการเคลื่อนไหวในศูนย์ไม่น้อยกว่า 3 เดือน

4.2. ทักษะความคุ้นเคยกับสภาพแวดล้อมและการเคลื่อนไหว (คำจำกัดความใส่ไว้ในแบบสัมภาษณ์)

4.3. ทักษะการดำรงชีวิตประจำวัน (Activities of Daily Living : ADL) (คำจำกัดความใส่ไว้ในแบบสัมภาษณ์)

4.4. วิถีชีวิตอิสระ (Independent Living : IL) หรือการพึ่งพาตนเอง (คำจำกัดความใส่ไว้ในแบบสัมภาษณ์)

5. การสัมภาษณ์ครั้งที่ 1 ผู้สัมภาษณ์ควรใช้เวลาไม่เกินกว่า 1 ชั่วโมงต่อนักเรียน 1 คน และสัมภาษณ์วันละอย่างน้อย 3 คน ส่วนการสัมภาษณ์ครั้งที่ 2 เพื่อเพิ่มเติมคำตอบที่ยังไม่สมบูรณ์

นางสาว วิฑิตา ประชานุกูล – ผู้วิจัย

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ตอนที่ 1 โปรดตอบคำถามต่อไปนี้ โดยการขีด √ ลงใน ( ) หน้าข้อความที่เหมาะสมกับท่านที่สุด หรือโดยการเขียนตอบลงในช่องว่าง

วันที่สัมภาษณ์.....

ศูนย์ ( ) พัฒนาสมรรถภาพคนตาบอด ( ) ฝึกอาชีพหญิงตาบอดสามพราน

1. ชื่อ.....
2. อายุ.....ปี เพศ ( ) ชาย ( ) หญิง
3. ประเภทของความพิการ ( ) ตาบอด - ตาบอดสนิท ( ) เห็นเลือนราง
4. สาเหตุของความพิการ ( ) เป็นมาแต่กำเนิด ( ) ได้รับความเจ็บป่วย
   ( ) ได้รับอุบัติเหตุภายหลัง ( ) จำไม่ได้
   ( ) อื่นๆ(โปรดระบุ) ....
5. อายุที่เกิดความพิการ (กรณีที่ตาบอดภายหลัง).....ปี
6. ระดับการศึกษาขั้นสูงสุด ( ) ไม่ได้รับการศึกษา
   ( ) ประถมศึกษา
   ☐ โรงเรียนการศึกษาพิเศษสำหรับคนตาบอด
   ☐ โรงเรียนปกติ/เรียนร่วม
   ( ) มัธยมศึกษา
   ☐ โรงเรียนการศึกษาพิเศษสำหรับคนตาบอด
   ☐ โรงเรียนปกติ/เรียนร่วม
   ( ) ปวช. – ปวส. หรือเทียบเท่า
   ( ) ปริญญาตรี
   ( ) สูงกว่าปริญญาตรี
7. สถานภาพสมรส ( ) โสด ( ) สมรส/อยู่ด้วยกัน
   ( ) หย่า/แยกกันอยู่ ( ) ม่าย/คู่สมรสเสียชีวิต
8. บ้าน/ครอบครัวของท่าน(ภูมิลำเนาเดิม)อยู่ที่อำเภอ.....
จังหวัด.....
9. อาชีพของพ่อแม่/ครอบครัวท่าน.....
10. ท่านคิดว่าท่านได้รับการเลี้ยงดูจากพ่อแม่ของท่านอย่างไร
    ( ) ได้รับการเลี้ยงดูแบบปกป้องมากเกินไป
    ( ) แบบตามใจมาก
    ( ) เลี้ยงดูดี แบบประชาธิปไตย ให้อิสระทางความคิด
    ( ) ไม่สนใจใยดี ปล่อยปละละเลย
    ( ) อื่น ๆ (โปรดระบุ).....

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11. วัน/เดือน/ปี ที่แรกรับการฝึกที่ศูนย์.....
12. วัน/เดือน/ปี ที่เริ่มฝึกทักษะ O & Mตั้งแต่.....

ตอนที่ 2 โปรดตอบคำถามต่อไปนี้ โดยเลือกขีด √ ลงใน ( ) หน้าข้อความที่เหมาะสมกับท่านที่สุด หรือโดยการเขียนตอบลงในช่องว่าง (ขออนุญาตบันทึกเทปจากคนพิการทางการเห็น)

ผู้สัมภาษณ์อ่านคำจำกัดความ คำว่า **ทักษะความคุ้นเคยกับสภาพแวดล้อมและการเคลื่อนไหว (ซึ่งในแบบสอบถามจะแทนด้วยคำว่า O&M) คือ ทักษะที่สอนและฝึกให้คนพิการทางการเห็นสามารถเคลื่อนไหว หรือเดินทางได้อย่างอิสระ และปลอดภัย จากสถานที่หนึ่งไปยังอีกสถานที่หนึ่งได้ด้วยตนเอง โดยใช้เทคนิคต่าง ๆ ได้แก่ การเดินทางโดยไม้เท้า และการนำทางโดยคนสายตาปกติ**

1. ก่อนเข้ารับการฝึกอบรม O&M ที่ศูนย์แห่งนี้ ท่านรู้จักทักษะ O&M หรือไม่
   ( ) ไม่รู้จัก
   ( ) รู้จัก
2. ท่านเคยเข้ารับการอบรม O&M มาก่อนเข้ารับการฝึกที่ศูนย์แห่งนี้หรือไม่
   ( ) ไม่เคย
   ( ) เคย ที่(โปรดระบุ).....
3. ก่อนเข้ารับการฝึกที่ศูนย์แห่งนี้ ท่านมีวัตถุประสงค์/เป้าหมาย ในการฝึกทักษะO&Mไว้หรือไม่
   ( ) ไม่ได้ตั้งวัตถุประสงค์ไว้
   ( ) ตั้งวัตถุประสงค์ไว้

จากข้อ 3 หากท่านตั้งวัตถุประสงค์ไว้ ท่านตั้งไว้ว่าอย่างไร (โปรดอธิบาย)

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4. จากที่ศูนย์แห่งนี้ ท่านคิดว่าท่านได้เรียนรู้อะไรมาบ้างในวิชา/หลักสูตร O&M และแต่ละวิชามีความสำคัญมากน้อยระดับใด

	มากที่สุด	มาก	ปานกลาง	น้อย	น้อยที่สุด	ไม่ได้เรียน
การรับรู้ผ่านประสาทสัมผัส (การฟัง สัมผัส ดมกลิ่น)						
การหาที่ตั้งของวัตถุ						
การหาสิ่งของที่ตก						
การป้องกันตนเอง						
การเดินทางกับผู้นำทาง						
การยอมรับ - ปฏิเสธความช่วยเหลือ						
การใช้ลิฟต์						
การขึ้น – ลงบันได						
การเดินเลาะแนว						
การเดินบนทางเท้า						
การข้ามถนน						
การขึ้น - ลงรถประจำทาง						
การโดยสารรถยนต์/รถแท็กซี่						
การขึ้น – ลงเรือโดยสาร						
การโดยสารรถไฟฟ้า						
อื่น ๆ ……..……						
……...						

5. ท่านคิดว่าเนื้อหาวิชาที่ท่านเรียนมาแล้วจากข้อ 4 สอดคล้อง/ตรงกับวัตถุประสงค์หรือเป้าหมายที่ท่านตั้งไว้ก่อนเข้ารับการฝึกที่ศูนย์หรือไม่

( ) ไม่ได้ตั้งวัตถุประสงค์ไว้ (ตอบข้อนี้ หากข้อ 3 เลือกตอบว่าไม่ได้ตั้งวัตถุประสงค์ไว้)

( ) ไม่ตรงเลย

( ) ตรงเป็นบางเนื้อหา

( ) ตรงมากที่สุด

6. ระหว่างการฝึก/พักอาศัยที่ศูนย์หรือบ้านของท่าน ท่านนำเทคนิคใดของทักษะ O&M มาใช้บ่อย ๆ

ที่บ้านของท่านใช้เทคนิค…….

……..……..

ที่ศูนย์ใช้เทคนิค……..

……..……..

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7. ท่านมีความรู้สึกเปลี่ยนแปลงไปในทางที่ดีขึ้นหรือไม่ อย่างไร หลังจากที่ฝึกทักษะ O&M แล้ว

( ) ไม่มี

( ) มี คือ (เลือกตอบได้มากกว่า 1 ข้อ)

- รู้สึกว่าร่างกายแข็งแรงขึ้น
- รู้สึกเป็นอิสระมากขึ้นในการทำกิจวัตรประจำวัน
- เข้าใจเส้นทางที่ใช้ในชีวิตประจำวันมากขึ้น
- รู้สึกว่าตนเองเป็นที่ยอมรับของครอบครัว
- มีความเชื่อมั่นว่าตนเองมีความสามารถ
- เป็นที่ยอมรับของสังคมมากขึ้น เช่น มีงานทำ
- อื่น ๆ (โปรดระบุ).....

.....

8. เมื่อท่านฝึกทักษะ O&M แล้ว ท่านประสบปัญหาเกี่ยวกับการเดินทางทั้งในและนอกอาคาร และปัญหาการดำรงชีวิตประจำวัน หรือไม่

ปัญหาการเดินทาง ( ) ไม่มี

( ) มี (โปรดระบุปัญหา).....

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ปัญหาการดำรงชีวิตประจำวัน

(ผู้สัมภาษณ์อ่านคำจำกัดความคำว่า **ทักษะการดำรงชีวิตประจำวัน คือ ทักษะในการทำกิจกรรมต่าง ๆ ที่เป็นกิจวัตรประจำวันของคนส่วนมาก เช่น การดูแลสุขภาพอนามัยส่วนตัว การทำความสะอาดที่อยู่อาศัย การสื่อสารมารยาททางสังคม การบริหารจัดการค่าใช้จ่าย เป็นต้น)**

( ) ไม่มี

( ) มี (โปรดระบุปัญหา).....

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9. ในระหว่างการฝึกทักษะ O&M ที่ศูนย์ ท่านมีความต้องการที่จะเดินทางไปไหนมาไหน โดยไม่มีผู้อื่นช่วยเหลือมากขึ้น ใช่หรือไม่

( ) ไม่ใช่ ( ) ไม่แน่ใจ

( ) ใช่ (โปรดระบุตัวอย่าง).....

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10. เมื่อท่านเดินทางไปในสถานที่ที่ท่านไม่คุ้นเคย ท่านได้ใช้ทักษะ O&M หรือไม่

( ) ไม่ได้ใช้ ( ) ได้ใช้บ้าง ( ) ใช้มากที่สุด

จากข้อ 10 ถ้าท่านใช้ทักษะ O&M โปรดยกตัวอย่างเทคนิคที่ท่านใช้บ่อย ๆ

……..

……..

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11. ท่านเคยได้ยินคำว่า "วิถีชีวิตอิสระ" หรือไม่ ลองให้ความหมายของท่านตามความเข้าใจ

……..

……..

……..

(ผู้สัมภาษณ์อ่านคำจำกัดความของคำว่า **วิถีชีวิตอิสระ หรือการพึ่งพาตนเอง คือ การที่บุคคลดำรงชีวิตอยู่ได้โดยมีโอกาสในการตัดสินใจด้วยตนเอง กล้าที่จะเผชิญกับปัญหาและสามารถจัดการกับปัญหาได้ และรับผิดชอบในสิ่งที่ตนเองเลือก โดยยอมรับความช่วยเหลือเกื้อกูลกันในสังคมตามที่พึงเป็น ภายใต้กรอบวัฒนธรรมประเพณีของสังคมไทย)**

ท่านเห็นด้วยกับความหมายของคำว่า "วิถีชีวิตอิสระ" ที่ให้ไว้หรือไม่

( ) เห็นด้วย

( ) ไม่เห็นด้วย เพราะ……

12. ท่านคิดว่า ปัจจุบันนี้ท่านมีวิถีชีวิตอิสระหรือการพึ่งพาตนเอง มากน้อยเพียงใด

( ) เป็นอิสระมากที่สุด ไม่ต้องพึ่งพาผู้อื่นเลย

( ) เป็นอิสระในบางสถานการณ์ ยังพึ่งพาผู้อื่นเมื่อจำเป็น

( ) ยังเป็นอิสระน้อยมาก ต้องพึ่งพาผู้อื่นมากกว่า

จากข้อ 12 บุคคลที่ท่านต้องการพึ่งพาให้ช่วยเหลือท่านในชีวิตประจำวันมากที่สุด คือ (เลือกตอบเพียงข้อเดียว)

( ) พ่อ/แม่ ( ) เพื่อนที่มีสายตาปกติ

( ) พี่/น้อง ( ) ใครก็ตามที่อยู่ในบริเวณนั้น ๆ

( ) ญาติ ( ) อื่น ๆ (โปรดระบุ)……

▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪

ขอขอบคุณทุกท่านที่ให้ความร่วมมือ

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APPENDIX B

Questionnaire for O&M Instructors

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แบบสอบถามเพื่อสำรวจความคิดเห็นของผู้สอน ทักษะความคุ้นเคยกับสภาพแวดล้อมและการเคลื่อนไหว

<u>คำชี้แจง</u>

1. แบบสอบถามนี้ต้องการทราบความคิดเห็นที่แท้จริงของท่าน เพื่อนำไปประมวลความคิดเห็นเรื่องการฝึกทักษะความคุ้นเคยกับสภาพแวดล้อมและการเคลื่อนไหวสำหรับคนพิการทางการเห็น ดังนั้น คำตอบของท่านจึงไม่มีถูกหรือผิด ดีหรือไม่ดี แต่อย่างใด และคำตอบของท่านจะนำไปใช้รายงานผลในวิทยานิพนธ์ครั้งนี้เท่านั้น

2. โปรดอ่านคำอธิบาย และวิธีตอบของแต่ละตอนก่อนตอบ

3. แบบสอบถามนี้ แบ่งออกเป็น 2 ตอน คือ

ตอนที่ 1 ข้อมูลส่วนบุคคลของผู้ตอบ จำนวน 12 ข้อ

ตอนที่ 2 ความคิดเห็นเกี่ยวกับการฝึกทักษะความคุ้นเคยกับสภาพแวดล้อมและการเคลื่อนไหวสำหรับคนพิการทางการเห็น จำนวน 7 ข้อ

4. โปรดศึกษาคำจำกัดความต่อไปนี้ เพื่อความเข้าใจที่ตรงกัน

4.1. ทักษะความคุ้นเคยกับสภาพแวดล้อมและการเคลื่อนไหว (ซึ่งในแบบสอบถามจะแทนด้วยคำว่า O & M) คือ ทักษะที่สอนและฝึกให้คนพิการทางการเห็นสามารถเคลื่อนไหว หรือเดินทางได้อย่างอิสระ และปลอดภัย จากสถานที่หนึ่งไปยังอีกสถานที่หนึ่งได้ด้วยตนเอง โดยใช้เทคนิคต่าง ๆ ได้แก่ การเดินทางโดยไม้เท้า และการนำทางโดยคนสายตาปกติ

4.2. ทักษะการดำรงชีวิตประจำวัน (Activities of Daily Living : ADL) คือ ทักษะในการทำกิจกรรมต่าง ๆ ที่เป็นกิจวัตรประจำวันของคนส่วนมาก เช่น การดูแลสุขภาพอนามัยส่วนตัว การทำความสะอาดที่อยู่อาศัย การสื่อสาร มารยาททางสังคม การบริหารจัดการค่าใช้จ่าย เป็นต้น

4.3. วิถีชีวิตอิสระ (Independent Living : IL) หรือการพึ่งพาตนเอง คือ การที่บุคคลดำรงชีวิตอยู่ได้โดยมีโอกาสตัดสินใจด้วยตนเอง กล้าที่จะเผชิญกับปัญหาและสามารถจัดการกับปัญหาได้ และรับผิดชอบในสิ่งที่ตนเองเลือก โดยยอมรับความช่วยเหลือเกื้อกูลกันในสังคมตามที่พึงเป็น ภายใต้กรอบวัฒนธรรมประเพณีของสังคมไทย

5. ผู้วิจัยจะขออนุญาตมารับแบบสอบถามคืน ภายในวันที่ 28 กุมภาพันธ์ 2546

ขอขอบคุณทุกท่านที่ให้ความร่วมมือ

นางสาว วิฑิตา ประชานุกูล - ผู้วิจัย

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ครั้งที่ 1 วันที่ได้รับแบบสอบถาม...../...../.....
ครั้งที่ 2 วันที่สัมภาษณ์เพิ่มเติม ...../...../.....

ตอนที่ 1 โปรดตอบคำถามต่อไปนี้ โดยการขีด √ ลงใน ( ) หน้าข้อความที่เหมาะสมกับท่านที่สุด หรือโดยการเขียนตอบลงในช่องว่าง

1. เพศ ( ) ชาย ( ) หญิง
2. อายุ.....ปี
3. สถานที่ทำงานปัจจุบัน ( ) ศูนย์พัฒนาสมรรถภาพคนตาบอด
   ( ) ศูนย์ฝึกอาชีพหญิงตาบอดสามพราน
4. อายุการทำงาน ( ) ด้านทักษะ O & M .....ปี
   ( ) ด้านที่เกี่ยวข้องกับคนพิการทางการเห็น.....ปี
5. ตำแหน่งหน้าที่ปัจจุบัน
   ( ) ครูสอนวิชา O & M
   ( ) ผู้ช่วยครูสอนวิชา O & M
   ( ) ครูสอนวิชาอื่น เช่น เบรลล์ การดำรงชีวิตประจำวัน อาชีพ ฯลฯ (เคยสอนวิชา O&M มาก่อน)
   ( ) อื่น ๆ (โปรดระบุ) .....
.....
6. วุฒิสูงสุดทางการศึกษา
   ( ) ต่ำกว่าปริญญาตรี ( ) ปริญญาตรี
   ( ) ประกาศนียบัตรขั้นสูงภายหลังปริญญาตรี ( ) ปริญญาโท
7. ก่อนมาทำงานที่ศูนย์แห่งนี้ท่านเคยได้เรียนหรืออบรมเกี่ยวกับการศึกษาสำหรับคนพิการทางการเห็น ที่ไม่เกี่ยวข้องกับทักษะ O & M เพียงใด
   ( ) ไม่เคยเรียน/อบรมเลย
   ( ) เคยเรียนมาบ้าง โดยเรียนเป็นหัวข้อหนึ่งในรายวิชาที่จัดให้การศึกษา
   ( ) เคยเรียนมา โดยเรียนเป็นรายวิชาเฉพาะ การศึกษาสำหรับคนพิการทางการเห็น

หากท่านได้เคยเรียนมา ท่านเรียน/อบรมจาก(โปรดระบุสถาบันหรือผู้สอน).....
.....
ระยะเวลาที่เรียน/อบรม.....

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8. ก่อนมาทำงานที่ศูนย์แห่งนี้ท่านเคยมีประสบการณ์เกี่ยวกับคนพิการทางการเห็นหรือไม่ (ตอบได้มากกว่า 1 ข้อ)

( ) ไม่เคยมี

( ) มีบุตรหลานหรือคนในปกครองที่มีความพิการทางการเห็น

( ) เคยรับรู้เรื่องราวเกี่ยวกับคนพิการทางการเห็นจากสื่อต่าง ๆ

( ) เคยเห็นพฤติกรรมของคนพิการทางการเห็นจากชุมชน

( ) เคยมีคนพิการทางการเห็นมาร่วมกิจกรรมในห้องเรียน

( ) เคยมีคนพิการทางการเห็นมาร่วมกิจกรรมในโรงเรียน หรือ หน่วยงาน

( ) เคยสอนคนพิการทางการเห็นมานาน……ปี

( ) อื่น ๆโปรดระบุ) ……...

9. ก่อนมาทำงานที่ศูนย์แห่งนี้ท่านเคยศึกษา/อบรมเกี่ยวกับทักษะ O & M จากสถาบันการศึกษา/มหาวิทยาลัยเพียงใด

( ) ไม่เคยเรียนเลย

( ) ได้เคยเรียนบ้าง โดยเรียนเป็นหัวข้อหนึ่งในรายวิชาที่จัดให้ศึกษา

( ) ได้เคยเรียนมา โดยเรียนเป็นรายวิชาเฉพาะทางด้านการสอน O & M

( ) เคยได้รับการอบรมหลักสูตรเฉพาะทางด้านการสอนทักษะ O & M

หากท่านได้เรียน/อบรมมา ท่านเรียนจาก(โปรดระบุสถาบันหรือผู้สอน) ……

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ระยะเวลาที่เรียน/อบรม……

10. ขณะที่ทำงานในศูนย์แห่งนี้ ท่านเคยได้รับการอบรมหรือฝึกปฏิบัติการทักษะ O & M เพิ่มเติม หรือไม่

( ) ไม่เคย

( ) เคย (โปรดระบุสถาบัน)……..…

ประเทศ …….

ระยะเวลาที่ฝึก……

11. ก่อนท่านทำงานในตำแหน่งปัจจุบัน ท่านเคยมีประสบการณ์ด้านการสอนวิชาหรือทักษะ O & M ให้กับคนพิการทางการเห็น หรือไม่ (ตอบได้มากกว่า 1 ข้อ)

( ) ไม่เคยมี

( ) เคยเป็น ผู้ช่วย/ครูสอนวิชา O & M มาบ้างที่……

( ) เคยสอนวิชา O & M มาก่อน ในฐานะผู้รับผิดชอบวิชาที่……...

……..

( ) เคยรับการฝึกอบรมจากหน่วยงานที่มีการสอนวิชา O & M จาก……

……..

( ) อื่น ๆ (โปรดระบุ) …… ……

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12. ภาระงานในการสอนวิชา O & M ที่ท่านรับผิดชอบในปัจจุบัน หรือเคยรับผิดชอบครั้งสุดท้าย
ท่านมีจำนวนนักเรียนที่รับผิดชอบ .....คน/วัน หรือ .....คน/สัปดาห์
ท่านใช้เวลาในการสอน .....ชั่วโมง/วัน .....วัน/สัปดาห์
ระยะเวลาของหลักสูตรในการฝึกโดยเฉลี่ย .....วัน/หลักสูตร หรือ
.....ชั่วโมง/หลักสูตร

ตอนที่ 2 กรุณาเลือกคำตอบหรือเขียนข้อความแสดงความคิดเห็นของท่านโดยอิสระ และครอบคลุมประเด็นคำถามมากที่สุด เกี่ยวกับหลักสูตร การสอนเทคนิคต่าง ๆ ในทักษะความคุ้นเคยกับสภาพแวดล้อมและการเคลื่อนไหว อนึ่งความคิดเห็นของท่านจะนำไปใช้เพื่อการรายงานผลในวิทยานิพนธ์เท่านั้น โดยจะไม่มีการระบุชื่อของท่าน

1. ตามความเห็นของท่าน “ทักษะความคุ้นเคยกับสภาพแวดล้อมและการเคลื่อนไหว” คือ

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2. ท่านคิดว่าคนพิการทางการเห็นจำเป็นต้องได้รับการฝึกอบรมทักษะ O & M หรือไม่อย่างไร

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3. ท่านกำหนดวัตถุประสงค์ในการสอน/ฝึกอบรมทักษะ O & M ให้แก่นักเรียนพิการทางการเห็นของท่านอย่างไรบ้าง

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4. ในหลักสูตรวิชา O & M ที่จัดฝึกอบรมให้แก่คนพิการทางการเห็นในศูนย์ของท่าน หลักสูตรบรรจุรายละเอียดเนื้อหาอะไรบ้าง ท่านให้เวลาในแต่ละบทเรียนกี่ชั่วโมง และท่านคิดว่าเนื้อหาในแต่ละบทมีความสำคัญเพียงไร (โปรดขีด √ ลงในช่องความเห็น)

	จำนวนชั่วโมง	**มาก**	**ปานกลาง**	**น้อย**
การรับรู้ผ่านประสาทสัมผัส (การฟัง สัมผัส ดมกลิ่น)				
การหาที่ตั้งของวัตถุ				
การหาสิ่งของที่ตก				
การป้องกันตนเอง				
การเดินทางกับผู้นำทาง				
การยอมรับ-ปฏิเสธความช่วยเหลือ				
การใช้ลิฟต์				
การขึ้น – ลงบันได				
การเดินเลาะแนว				
การเดินบนทางเท้า				
การข้ามถนน				
การขึ้น - ลงรถประจำทาง				
การโดยสารรถยนต์/รถแท็กซี่				
การขึ้น – ลงเรือโดยสาร				
การโดยสารรถไฟฟ้า				
อื่น ๆ ……..				
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5. จากประสบการณ์ของท่าน ท่านคิดว่านักเรียนที่ผ่านการฝึกอบรมทักษะ O & M อย่างน้อย 1 หลักสูตร (จบหลักสูตรแล้ว) มีพัฒนาการด้านใดเพิ่มขึ้นบ้าง และในแต่ละด้านมีความสำคัญมากน้อยเพียงไร (โปรดขีด √ ลงในช่องความเห็น)

	มากที่สุด	**มาก**	**ปานกลาง**	**น้อย**	**น้อยที่สุด**
การรับรู้ผ่านประสาทสัมผัส					
พัฒนาการทางการได้ยิน					
มโนทัศน์เกี่ยวกับร่างกาย					
พัฒนาการด้านกลไกกล้ามเนื้อ จังหวะการเดินและการทรงตัว					
พัฒนาการทางความคิดรวบยอด					
พัฒนาการทางสังคมและอารมณ์					
เจตคติต่อตนเองและต่อการทำงาน					
การมีวิถีชีวิตอิสระ					

6. จากประสบการณ์ของท่าน ท่านคิดว่าการสอนทักษะ O & M ให้แก่คนพิการทางการเห็นที่มีอายุแตกต่างกัน เช่น อายุต่ำกว่า 20 ปี กับที่มีอายุมากกว่า 40 ปี มีความเหมือนหรือต่างกันอย่างไร

( ) เหมือนกันทั้งหลักสูตร วิธีสอน และวัตถุประสงค์

( ) เหมือนกันบางอย่าง เช่นวัตถุประสงค์ แต่วิธีสอนเน้นทักษะต่างกัน

( ) แตกต่างกันอย่างสิ้นเชิง ทั้งวัตถุประสงค์และวิธีสอน

( ) อื่น ๆ (โปรดอธิบาย)……..……

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7. ท่านคิดว่านักเรียนพิการทางการเห็นของท่านที่สำเร็จหลักสูตรทักษะความคุ้นเคยกับสภาพแวดล้อมและการเคลื่อนไหว ในอดีต สามารถนำทักษะความคุ้นเคยกับสภาพแวดล้อมและการเคลื่อนไหว ไปประยุกต์ใช้ในการดำรงชีวิตประจำวันของเขา และมีวิถีชีวิตอิสระเพียงไร

(โปรดอธิบายตัวอย่าง)

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APPENDIX C

O&M Curriculum (Cane Technique) B.E. 2538

Developed by

Skills Development Center for the Blind

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หลักสูตรวิชาไม้เท้า O&M พุทธศักราช 2538

ศูนย์พัฒนาสมรรถภาพคนตาบอด

<u>จุดประสงค์การเรียนรู้</u>

การศึกษาวิชาไม้เท้า (Orientation & Mobility) เมื่อผ่านการศึกษาแล้ว ผู้เข้ารับการศึกษาจะได้รับรู้ ความสามารถ เจตคติและการปฏิบัติในเรื่องต่อไปนี้

1. การรู้สภาวะสภาพและสิ่งแวดล้อมที่เป็นอยู่ขณะนั้นและโดยทั่วไป ในเรื่อง
   1.1. พื้นฐานการรับรู้อย่างเป็นขั้นตอน
   1.2. การรู้จักตนเองและสร้างความเชื่อมั่น
   1.3. การมีสมรรถภาพเยี่ยงบุคคลปกติ
2. การเคลื่อนไหวและการเดินทางโดยอิสระในเรื่อง
   2.1. การช่วยเหลือตนเองและผู้อื่น
   2.2. การเดินทางสู่เป้าหมายอย่างถูกต้องและปลอดภัย

<u>ขอบข่ายเนื้อหาหลักสูตร</u>

1. ความเป็นมา
2. หลักการ
3. จุดมุ่งหมาย
4. โครงสร้างหลักสูตร
5. หลักเกณฑ์การใช้หลักสูตร
6. การจัดการเรียนการสอน

<u>รายละเอียดหลักสูตร</u>

1. <u>ความเป็นมา</u>

วิชาไม้เท้า O&M เริ่มต้นในปีพ.ศ. 2483 ที่ประเทศสหรัฐอเมริกา โดย น.พ.ริชาร์ด ฮูเวอร์ ทดลองให้มีการใช้ไม้เท้ากับคนไข้ตาบอดใน ร.พ.เวลเลย์ฟอร์จ มลรัฐเพนซิลเวเนียจนประสบผลสำเร็จ แล้วได้มีการเผยแพร่วิชานี้ไปที่ประเทศอังกฤษ ออสเตรเลีย อินโดนีเซีย อินเดีย และอีกหลายประเทศในลำดับต่อมา องค์การ C.B.M (Christoffel Blindenmission) เป็นองค์การที่ช่วยเหลือคนตาบอดทั่วโลกได้นำหลักสูตรวิชา O&M เข้ามาเปิดการฝึกอบรมในประเทศไทยเป็นครั้งแรก เมื่อวันที่ 9 เมษายน 2527 ระยะเวลาการฝึก 4 เดือน โดยเป็นการร่วมมือกันระหว่างองค์กร

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C.B.M และหน่วยศึกษานิเทศก์ กองการศึกษาพิเศษ กรมสามัญศึกษารวมทั้งองค์กรเอกชนและมูลนิธิต่าง ๆ ที่เกี่ยวกับคนตาบอด มีผู้เข้าร่วมการฝึกอบรมทั่วประเทศจำนวน 13 คน เมื่อจบหลักสูตรได้นำความรู้กลับไปถ่ายทอดให้กับผู้พิการทางการเห็นในหน่วยงานของตนจนเป็นผลสำเร็จ

2. หลักการและเหตุผล

หลักสูตรวิชาไม้เท้า O&M เป็นหลักสูตรที่มีความสำคัญต่อผู้พิการทางการเห็นเป็นอย่างยิ่ง อาจถือเป็นส่วนประกอบของชีวิตก็ได้ แต่หลักสูตรนี้ยังอยู่ในวงจำกัดมีผู้พิการทางการเห็นเพียงบางส่วนเท่านั้นที่ได้รับการฝึกอย่างถูกต้อง จึงควรจะมีการเผยแพร่และส่งเสริมให้ผู้พิการทางการเห็นโดยทั่วไปได้ฝึกตามหลักสูตรนี้อย่างทั่วถึง ซึ่งมีหลักการที่สำคัญดังนี้

1. เป็นหลักสูตรที่มุ่งให้ผู้เรียนได้มีประสบการณ์พื้นฐานในการดำเนินชีวิต มีความสามารถในการช่วยเหลือตนเอง และการเดินทางโดยอิสระ

2. เป็นหลักสูตรที่มุ่งให้ผู้เรียนสามารถดำรงอยู่ในสภาพแวดล้อม ชุมชน และสังคมได้อย่างกลมกลืนไม่เป็นภาระแก่ครอบครัวและสังคมโดยส่วนรวม

3. เป็นหลักสูตรที่มุ่งเผยแพร่และส่งเสริมให้บุคคลโดยทั่วไป หรือสังคมได้เข้าใจและเห็นความสำคัญในการอยู่ร่วมกับผู้พิการทางการเห็น

3. จุดมุ่งหมาย

หลักสูตรวิชาไม้เท้า O&M เป็นหลักสูตรเฉพาะสำหรับผู้พิการทางการเห็น แต่ไม่จำกัดไว้เฉพาะผู้พิการทางการเห็นเท่านั้น คนปกติก็สามารถฝึกวิชานี้ได้ โดยวิธีการปิดตาฝึก ซึ่งมีจุดหมายที่สำคัญดังนี้

1. เพื่อให้ผู้เข้ารับการฝึกมีความรู้ และเกิดทักษะในด้านการเคลื่อนไหว การเดินทางสู่เป้าหมาย โดยอิสระอย่างถูกต้องและปลอดภัย

2. เพื่อให้ผู้เข้ารับการฝึก สามารถเปลี่ยนแปลงหรือเสริมสร้างบุคลิกภาพให้เป็นปกติเหมาะสมเหมือนกับบุคคลโดยทั่วไป

3. เพื่อให้ผู้เข้ารับการฝึกได้พัฒนาสมรรถภาพทางร่างกายและจิตใจในด้านความเชื่อมั่นตนเอง ซึ่งจะเป็นพื้นฐานในการดำเนินชีวิตอย่างเป็นสุข

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4. โครงสร้างหลักสูตร

หลักสูตรวิชาไม้เท้า O&M ของศูนย์พัฒนาสมรรถภาพคนตาบอด จัดเป็นวิชาบังคับพื้นฐานที่ผู้เข้ารับการศึกษาทุกคนต้องเรียนรู้และฝึกอย่างสม่ำเสมอจนเกิดทักษะโดยให้การศึกษากับกลุ่มเป้าหมาย 3 ลักษณะ

1. จัดการเรียนการสอนให้กับผู้พิการทางการเห็นที่สมองช้า ไม่มีพื้นฐานการรับรู้ในด้านต่าง ๆ ให้มีสมรรถภาพเพิ่มขึ้น

2. จัดการเรียนการสอนให้กับผู้ที่มีพื้นฐานการรับรู้และการช่วยเหลือตนเองมาบ้างแล้วให้เป็นระบบขั้นตอน และเหมาะสมยิ่งขึ้น

3. จัดการเรียนการสอนสำหรับผู้ที่มีพื้นฐานการเคลื่อนไหวได้เพิ่มทักษะการเคลื่อนไหวที่เป็นประโยชน์ต่อการประกอบอาชีพในด้านต่าง ๆ อย่างมีประสิทธิภาพ

ขอบข่ายเนื้อหา

การจัดหลักสูตรวิชาไม้เท้า O&M มีขอบข่ายเนื้อหาที่เป็นประโยชน์ต่อการเคลื่อนไหวของผู้พิการทางการเห็นให้สามารถนำไปใช้ได้โดยทันที ซึ่งมีองค์ประกอบที่สำคัญของเนื้อหาดังต่อไปนี้

1. การเตรียมขั้นพื้นฐาน

1.1. การปฐมนิเทศ

1.2. การทดสอบขั้นต้น

1.2.1. ทดสอบการรับรู้แสง

1.2.2. ทดสอบการรับรู้เสียง

1.2.3. ทดสอบการรับรู้กลิ่น

1.2.4. ทดสอบการรับรู้ทางสัมผัส

1.2.5. ทดสอบความรับรู้ความทึบ

1.3. การฝึกประสาทรับรู้ (Sensory Training)

1.3.1. ประสาทสัมผัส

1.3.2. โสตประสาท

1.4. สังกัปทางมิติ (Dimensional Concept)

1.4.1. ลักษณะขนาน

1.4.2. ลักษณะตั้งฉาก

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1.4.3. การหันตั้งฉาก

1.4.4. รูปทรงเรขาคณิต

1.4.5. ทิศทาง

1.4.6. ภาษาทางมิติ

1.5. ลักษณะกลไกการเคลื่อนไหว (Mobility Skills)

1.5.1. ความเข้าใจในท่าทางปกติ

1.5.2. ท่าทางการเดินปกติ

1.5.3. ความเข้าใจในภาพพจน์ทางกาย

1.5.4. การรู้จักมาตรการวัดและการกะระยะ (Measurement)

2. ทักษะการเคลื่อนไหวกับผู้นำทาง (Sighted Guide Technique)

2.1. การให้สัญญาณและนำทาง (Contact and Guide)

2.1.1. การแตะหลังมือ (Making Contact)

2.1.2. การจับเหนือข้อศอก (Grip)

2.1.3. การเดินตามถนนนำทาง (Stance)

2.2. การกลับตัว (Reversing Directions)

2.2.1. ขั้นตอนการกลับตัว

2.2.2. การกลับตัวพร้อมไม้เท้า

2.3. การย้ายข้าง (Transferring Sides)

2.3.1. ขั้นตอนการย้ายข้าง

2.3.2. การย้ายข้างพร้อมไม้เท้า

2.4. การผ่านช่วงทางแคบ (Narrow Passageways)

2.4.1. การปฏิบัติไม่มีอุปสรรค

2.4.2. การปฏิบัติในสถานการณ์จริง

2.5. การตอบรับและปฏิเสธการช่วยเหลือ (Accepting or Refusing Aid)

2.5.1. ขั้นตอนและสถานการณ์

2.5.2. การปฏิบัติพร้อมไม้เท้า

2.6. การขึ้นลงบันได (Stairways)

2.6.1. การขึ้นลงบันไดกับผู้นำทาง

2.6.2. การขึ้นลงบันไดพร้อมไม้เท้า

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2.7. การเปิดปิดประตู (Door Ways)

2.7.1. ขั้นตอนการเปิดปิดประตู

2.7.2. การเปิดปิดประตูพร้อมไม้เท้า

2.8. การสำรวจ (Search Patterns)

2.8.1. การสำรวจห้อง

2.8.2. การสำรวจโต๊ะ , เก้าอี้

2.8.3. การสำรวจสิ่งของ

3. การเคลื่อนไหวอิสระ (Independent Travel)

3.1. การป้องกันส่วนบน (Upper hand)

3.1.1. ท่ายืนป้องกันส่วนบน

3.1.2. การป้องกันส่วนบนเข้าหาอุปสรรค

3.2. การป้องกันส่วนล่าง (Lower hand)

3.2.1. ท่ายืนป้องกันส่วนล่าง

3.2.2. การป้องกันส่วนล่างเข้าหาอุปสรรค

3.3. การละเลาะ (Trailing)

3.3.1. ลักษณะการละเลาะ

3.3.2. การเดินละเลาะ

3.4. การเดินผ่านระหว่างประตู (Traversing open Doorways)

3.4.1. ลักษณะการปฏิบัติ

3.4.2. การเดินผ่านอุปสรรค

3.5. การหาของตก (Dropped objects)

3.5.1. การหาแบบวงกลม

3.5.2. การหาแบบเครื่องบิน

3.5.3. การหาแบบธรรมดา

3.6. การหาทิศทางตรง (Direction taking)

3.6.1. หาทิศทางตรงลักษณะขนาน (Lining up)

3.6.2. หาทิศทางตรงลักษณะตั้งฉาก (Squaring up)

3.7. การเดินท่าทะแยงไม้เท้า (Diagonal Technique)

3.7.1. ส่วนต่างๆของไม้เท้า

3.7.2. การจัดท่าทางและการฝึกแบบขั้นต้น

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3.7.3. การเดินท่าทะแยงบนพื้นและขอบตรง

3.7.4. ท่าทะแยงกับการนำไปใช้

3.8. <u>การเดินไม้เท้าแกว่งสัมผัส</u> (Touch Technique)

3.8.1. การจัดท่าทาง

3.8.2. ตำแหน่งการจับไม้เท้า

3.8.3. การเดินตรงและสำรวจอุปสรรค

3.8.4. การยืนแกว่งไม้เท้า

3.8.5. การเดินแกว่งสัมผัส

3.8.6. การแกว่งเลื่อนสัมผัส

3.8.7. การแกว่งสัมผัสตามบาทวิถี

3.8.8. การเดินแกว่งสัมผัสในบริเวณ

3.9. <u>การรับรู้สิ่งแวดล้อม</u> (Environment Awareness)

3.9.1. สิ่งสังเกตประจำที่ (Landmarks)

3.9.2. สิ่งสังเกตเคลื่อนที่ (Clues)

3.9.3. การเดินขนานและตั้งฉากถนน

3.9.4. ทางแยกและทางข้ามถนน

3.9.5. ขอบถนนและเส้นแนวทางเดิน

3.9.6. การประยุกต์ใช้ประสาทรับรู้

3.10. <u>การเดินทางในเมือง</u>

3.10.1. การใช้พาหนะในการเดินทาง (Entering Vehicles)

3.10.2. การนำความคุ้นเคยกับสถานที่และพื้นผิวทาง

3.10.3. การเดินในสภาพแวดล้อมแบบง่าย

3.10.4. การเดินในสภาพแวดล้อมแบบสับสน

3.10.5. การเดินทางในสถานที่ไม่คุ้นเคย

3.10.6. การปล่อยอิสระโดยกำหนดเป้าหมาย (Drop – offs)

3.11. <u>การเดินทางในชนบท</u>

3.11.1. การเดินทางในสภาพถนนแบบชนบท

3.11.2. การเดินทางในทุ่งนา

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4. การฝึกในบทพิเศษ

4.1. <u>ทักษะการดำเนินชีวิตประจำวัน</u>

4.1.1. การรับประทานอาหาร

4.1.2. การรินน้ำดื่ม

4.1.3. การรักษาความสะอาด

4.1.4. การแต่งตัว

4.1.5. การซักและรักษาเสื้อผ้า

4.1.6. การใช้โทรศัพท์

4.1.7. การใช้นาฬิกา

4.1.8. การใช้อุปกรณ์ไฟฟ้า

4.1.9. การแยกประเภทเงิน

4.1.10. การคิดเลขเบื้องต้น

4.1.11. การเขียนลายมือชื่อ

4.2. <u>การฝึกนักเรียนเห็นเลือนลาง</u> (Low vision)

4.2.1. การปิดตาฝึก

4.2.2. การฝึกในเวลากลางคืน

5. <u>แนวทางการนำหลักสูตรไปใช้</u>

การจัดทำหลักสูตรวิชาไม้เท้า O&M ขึ้น สามารถนำไปใช้กับผู้พิการทางการเห็นให้เป็นประโยชน์ต่อการเคลื่อนไหว และการเดินทางอย่างปลอดภัย ดังต่อไปนี้

1. เป็นการจัดการเรียนการสอนที่ทำให้ผู้พิการทางการเห็นสามารถเข้าใจในเนื้อหาตามหลักวิชาและหวังผลทางการปฏิบัติจนเกิดเป็นทักษะตามที่กำหนดไว้อย่างเป็นขั้นตอน

2. เป็นการจัดการเรียนการสอนที่พยายามพัฒนาและสร้างคุณค่าของบุคคลจากพื้นฐาน การเชื่อมั่นตนเองไปสู่ความคิดสร้างสรรในการดำเนินชีวิตและประกอบอาชีพให้เต็มความสามารถ

3. เป็นการจัดการเรียนการสอนที่ใช้สื่อสารการสอนเพื่อความเข้าใจและการปฏิบัติเยี่ยงคนปกติ เช่น อุปกรณ์มีเสียง วัสดุรูปทรงเรขาคณิต นกหวีด เครื่องเสียง อุปกรณ์ทางแสง ผ้าปิดตา ไม้เท้าประเภทต่างๆ ฯลฯ

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6. การจัดการเรียนการสอน

1. หลักสูตรวิชาไม้เท้า O&M เป็นการจัดหลักสูตรลักษณะพิเศษตามพื้นฐานการรับรู้ และการพัฒนาทางร่างกายและจิตใจของแต่ละบุคคลแบบลำดับขั้นตอน ในปีการศึกษาหนึ่งมีการเรียนการสอนเป็นคาบ คาบละ 1 ชั่วโมง 15 นาที ต่อ 1 วัน จนครบหลักสูตร จำนวน 250 ชั่วโมง โดยแบ่งการเรียนการสอนออกเป็น 2 ส่วน

1.1. การเรียนทางภาคทฤษฎี เป็นอัตราส่วนร้อยละ 20 ของการเรียนการสอนทั้งหมด

1.2. การเรียนทางภาคปฏิบัติ เป็นอัตราส่วนร้อยละ 80 ของการเรียนการสอนทั้งหมด

2. เป็นหลักสูตรที่การเรียนการสอนเน้นเฉพาะตามลักษณะของแต่ละบุคคลเพื่อหวังผลปฏิบัติในการช่วยเหลือตนเอง โดยการแยกสอนเป็นกลุ่มหรือทีละคนตามจำเป็นของเนื้อหาวิชาในส่วนนั้น

3. เป็นการเรียนการสอนที่ประเมินการฝึกทุกขั้นตอนเพื่อเป็นแนวทางการแก้ไขให้ถูกต้องตามจุดหมาย พร้อมทั้งมีการประเมินด้านตัวเลขทางทฤษฎีและปฏิบัติในภาคต้นและภาคปลาย เพื่อกำหนดประสิทธิภาพในการนำหลักสูตรไปใช้ดังนี้

3.1. ผู้ที่มีผลการประเมินด้านตัวเลข ร้อยละ 80 – 100 ประสิทธิภาพในการนำหลักสูตรไปใช้ ดีมาก (สามารถช่วยเหลือตนเองได้อย่างสมบูรณ์ และอาจเพิ่มประสบการณ์การฝึกขึ้นอีกได้)

3.2. ผู้ที่มีผลการประเมินด้านตัวเลข ร้อยละ 70 – 79 ประสิทธิภาพในการนำหลักสูตรไปใช้ ดี (สามารถช่วยเหลือตนเองได้และควรเพิ่มประสบการณ์การฝึกให้มากขึ้น)

3.3. ผู้ที่มีผลการประเมินด้านตัวเลข ร้อยละ 60 – 69 ประสิทธิภาพในการนำหลักสูตรไปใช้ ปานกลาง (สามารถช่วยเหลือตนเองได้และควรเพิ่มประสบการณ์การฝึกให้มากยิ่งขึ้น)

3.4. ผู้ที่มีผลการประเมินด้านตัวเลข ร้อยละ 50 – 59 ประสิทธิภาพในการนำหลักสูตรไปใช้ ผ่าน (พอที่จะช่วยเหลือตนเองได้และต้องเพิ่มประสบการณ์การฝึกต่อไป)

3.5. ผู้ที่มีผลการประเมินด้านตัวเลข ร้อยละ 0 – 49 ประสิทธิภาพในการนำหลักสูตรไปใช้ ไม่ผ่าน (ไม่สามารถช่วยเหลือตนเองได้และต้องเพิ่มประสบการณ์การรับรู้และการฝึกต่อไป)

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APPENDIX D

Name List of O&M and Special Education Specialists

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รายชื่อผู้เชี่ยวชาญตรวจสอบเครื่องมือ

1. อาจารย์แฉล้ม แย้มเอี่ยม
2. อาจารย์ศรีสมร กสิวัฒน์
3. อาจารย์จรรยา ชื่นเกษม

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BIOGRAPHY

NAME Miss Vithita Prachanukul

DATE OF BIRTH April 20, 1976

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INSTITUTIONS ATTENDED Kasetsart University, 1994 – 1998

Bachelor Degree of Arts (Political Science)

Mahidol University, 1998 – 2003

Master of Arts (Rehabilitation Service for Persons with Disabilities)

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