

European
Orientation and Mobility
And Autonomy in
Daily Life
Network



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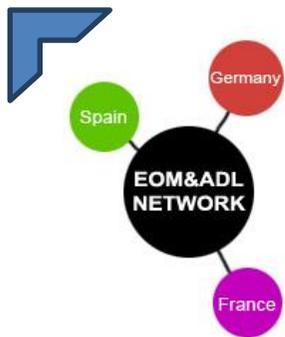
From Key activity to Knowledge, Skills and Competencies

The first step was the identification of the key activities in OM and ADL.

For the second step, each partner chose a key activity and decline it in knowledge, skills and competencies.

This choice was made taking into account the final goal of the project : the mobility of learners.

This preliminary work allowed thereafter each partner to provide mobility for a group of learners.



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Qualifications related to the profession of rehabilitation teacher (visual impairment) Unit 2: Assessment/Evaluation of the rehabilitative needs of persons with visual impairment and blindness

Introduction:

Assessment and evaluation of visual function are the foundation for the understanding of how visual functions are affected or limited and how they have been modified. The visual impairment will have a significant impact on the visual response of the person and therefore the methods that should be used for rehabilitation.

The objective of the next step in the EOM ADL network project (work package 3) was to describe learning outcomes of teaching units on selected key activities in terms of knowledge, skills and competencies. This is the basis to develop procedures and criteria for assessment of the learning outcomes of such an exemplary teaching unit.

Unit: 2.Assessment/Evaluation of the rehabilitative needs of person with visual impairment and blindness

2.1 Collect basic information

2.2 Evaluate (Analyze) the rehabilitative needs

Prerequisites for teaching unit:

1) Profound theoretical knowledge in all fields related to VI and blindness

2) Profound counselling and teaching competencies especially about visual function: binocular vision, visual field, visual acuity, color, contrast sensibility.

Specific Knowledge, Skills and Competencies regarding Assessment/Evaluation of the rehabilitative needs of person with visual impairment and blindness

<p>Knowledge (basic knowledge required for the analysis of the information of assessment and evaluation of visual function)</p>	<p>Skills (Skills required to estimate the limitations and changes in visual function derived from data from a clinical history)</p>	<p>Competencies (To estimate the compensation and rehabilitation measures derived from the analysis of data from a clinical history.)</p>
<ul style="list-style-type: none"> • To number the standardized visual function tests • To determine which are the needed visual function tests for each age • To know the specific visual function tests for patients with special needs • To know the specific visual function tests • To know normal and abnormal values for each visual function test 	<ul style="list-style-type: none"> • To write on the clinical report specific references related to each age group. • To interpret properly a computerized perimeter • To interpret properly a contrast sensitivity test • To interpret properly near and far visual acuity values 	<ul style="list-style-type: none"> • To be able to understand which are the visual function tests needed to be included in an ophthalmological report for each age • To be able to interpret the different tests needed for the evaluation of visual function

<ul style="list-style-type: none"> • To know mechanisms for the application of each visual function test • To know the different visual loss function groups • To know the different ADL and O&M functional implications for each group • To number the different procedures for the evaluation of visual loss function 	<ul style="list-style-type: none"> • To collect the appropriated data from the clinical report and observational charts • To use the appropriated observational charts for each activity of ADL and O&M • To infer from the collected data the functional consequences of vision loss in O&M and ADL activities. 	<ul style="list-style-type: none"> • To be able to determine the impact of the vision loss from the reported tests • To be able to determine the rehabilitation measures to be developed to compensate the limitations in visual function
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Description of the procedures and criteria of assessment

The assessment process consisted of 3 elements: the assessment of knowledge, of skills and of competency:

a) Assessment of Knowledge:

Knowledge (extract): *“basic knowledge required for the understanding of assessment and evaluation of visual function”*

The participants had to perform a written exam and had to answer 12 questions regarding methods of assessment and evaluation of visual function which were covered in the seminar. The participants had to select the correct answer from five possible answers. The maximum mark was 12 and it was necessary to have a minimum of 6 points to pass.

Evaluation criteria (example, extract from evaluation criteria):

Question No. 3 from the exam: “Which of the following factors can affect visual acuity?”

Maximum 1 point :

1. Room lighting
2. Mental fatigue

3. Photoreceptor density
4. Ocular or systemic pathologies
5. All these factors can affect visual acuity

b) Assessment of skills:

Skill (extract): "Skills required to estimate the limitations and changes in visual function derived from data from a clinical history."

The participants had to perform an exam with 10 questions. They had to select the correct answer from five possible answers. Questions are based on clinical cases presented by PowerPoint.

Evaluation Criteria: The participants had to perform a written exam and had to answer 10 questions. The participants had to select the correct answer from five possible answers. The maximum mark was 10 and it was necessary to have a minimum of 5 points to pass.

Evaluation criteria (example, extract from evaluation criteria):

Question No. 2 from the exam: "What kind of difficulties, will the patient have with this visual acuity? "

Maximum 1 point:

1. Reading tasks, O&M and ADL.
2. Reading task and ADL.
3. O&M and reading tasks.
4. ADL and O&M.
5. Reading tasks, O&M, ADL.

c) Assessment of competency

Competency (extract): "To estimate the compensation and rehabilitation measures derived from the analysis of data from a clinical history"

Participants attended sessions of evaluation and assessment of visual function performed at the clinic. They witnessed the development and interpretation of a measurement of contrast sensitivity, colour vision and the implementation of a microperimetry

Evaluation criteria:

The group of participants had to answer questions regarding the analysis the data obtained from the different tests and to draw conclusions regarding the implications for rehabilitation of persons with visual impairment

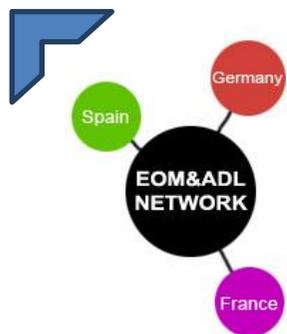
Extract from the evaluation criteria:

“Evaluation: The student performance and interpretation of the performed tests at each station. Only the practical demonstration will be judged.

Evaluation criteria:

- *The student correctly interprets the tests carried out during the session. (1 point)*

The results of the assessment of knowledge, skills and competency were summed up and judged as one unit. The maximum number of point was 23; the students passed the assessment with a minimum of 12 points (57%).



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Qualifications related to the profession of rehabilitation teacher (visual impairment)

Unit 4: – Specific key activities for ADL

4.1 Perform task analysis as a prerequisite for teaching a new / complex daily activity

Introduction: Task analysis is a method to break down complex tasks into a sequence of steps. It is an essential method to plan teaching lessons in Daily Living Skills (ADL) for blind or multiply handicapped learners. Therefore it was chosen as one key activity of a professional working in the field of rehabilitation of people who are blind or visually impaired (key activity 4.1).

In the following sections the prerequisites for a teaching unit on task analysis, the knowledge skills and competencies required to develop a task analysis independently and the procedures of assessment of knowledge, skills and competencies, that have been applied in an international seminar on task analysis, are described.

Prerequisites of students who participate in a teaching unit on key activity 4.1 'Task analysis'

- Basic knowledge about concepts and terms of general learning theory (e.g. stimulus, response, reinforcement, shaping, chaining).
- Basic knowledge and simulation experiences of alterations and limitations that blindness or visual impairment will have for the perception of the environment and control of action.
- Basic knowledge of general strategies to compensate for loss of vision (e.g. tactual exploration, using auditory cues).
- Knowledge of environmental adaptations and specific aids for people who are blind or have low vision.
- Competence to judge the level of perceptual, cognitive, fine-motor, gross-motor and language skills of a blind or visually handicapped person.
- Competence to apply special teaching strategies with people who are blind or have low vision (e.g. hand- over-hand-approach, verbalization).

Specific Knowledge, Skills and Competencies regarding the development of a Task Analysis

Knowledge	Skills	Competencies
<ul style="list-style-type: none"> • Knowing and understanding task analysis as a method for identifying sub-steps of complex tasks. • Knowing about the benefits and aims of a task analysis for teaching complex skills to blind or visually impaired persons. • Knowing different methods for developing a task analysis. • Understanding the importance of task analysis for the evaluation of prerequisite skills, the selection and design of required tools /media / setting and for teaching methods. 	<ul style="list-style-type: none"> • Being able to select a relevant behavioral objective (specific observable behavior) • Being able to prepare a suitable setting for the development of a task analysis. • Being able to divide the performance of the task into suitable single steps. • Being able to give a precise verbal description of steps. • Being able to develop a final written documentation of the sequence of steps which is complete and in correct order. • Being able to draw suitable conclusions from task analysis for prerequisite skills, the arrangement of the setting and the teaching methods. 	<ul style="list-style-type: none"> • Being able to use task analysis to analyse the difficulties a specific blind or visually handicapped learner has in mastering specific daily living skills. • Being able to use task analysis to prepare teaching of new daily living skills to a specific blind or visually impaired learner. • Being able to draw suitable conclusions regarding the choice and design of required tools and the arrangement of the setting for instruction for a specific learner. • Being able to draw suitable conclusions regarding the didactical-methodical aspects of teaching the skill to a specific learner.

Description of the procedures and criteria of assessment knowledge, skills and competencies:

(Applied in an international seminar on task analysis in Marburg (Germany) , 7th – 10th April, 2014)

d) Assessment of Knowledge:

Knowledge (extract): *“basic knowledge required for the performance of a task analysis”*

The participants had to perform a written exam and had to answer 7 questions regarding task analysis and teaching methods which were covered in the seminar. For each question possible correct answers were predefined and a maximum number of points for each question was defined too. The maximum number for the whole test was 22 points; a minimum of 11 points was sufficient to pass the exam.

Evaluation criteria (example, extract from evaluation criteria):

Question No. 6 from the exam: “Specify 3 different methods to develop a task analysis!”

Maximum 3 points (1 point for each of the following methods):

- 1) Perform the task under the blindfold, verbalize each step and record it with a tape recorder. Make a written protocol of the steps.
- 2) Perform the task under the blindfold and record it with a video recorder. Make a written protocol of the steps from the video recording.
- 3) Work with a partner: one person performs the task under the blindfold; the partner verbalizes the steps and writes them down.

e) Assessment of skills:

Skill (extract): *“Skills required to develop a task analysis of a defined behavioral objective, with special consideration of the impact of blindness or low vision on performance of the task.”*

The participants had to develop a task analysis of a predefined task (putting on a jacket). They worked in groups of 2 students on the task analysis .

Evaluation Criteria: completeness and precision of the sequence of steps.

To judge the completeness and precision of the task analysis, the student had to formulate the different steps as a request to the examiner and the examiner performed the task by precisely doing what was verbally requested. The quality of the task analysis was judged according to the following predefined criteria with a range of 0 to 3 points:

- 3 points: The examiner is able to perform the task (putting on a jacket) successfully following the verbal instructions; no further modifications or explanations of the task analysis are necessary.
- 2 points: The examiner is able to perform the task successfully, after some minor ambiguities in the verbal requests have been resolved.
- 1 point: A relevant step of the sequence is missing, is not described correctly or the verbal description is misleading. The student is able to correct the missing or misleading description. After this correction the examiner will be able to fulfil the rest of the task correctly.
- 0 point: The examiner is not able to perform the task solely by following the verbal requests. It is necessary to correct the task analysis in more than one of the different steps.

f) Assessment of competency

Competency (extract): *“Being able to use task analysis to analyze the difficulties a specific blind or visually handicapped learner has in mastering specific daily living skills.” ... “Being able to draw suitable conclusions regarding the didactical-methodical aspects of teaching the skill to a specific learner”.*

The participants watched a video of a blind child having difficulties in putting on her coat. They had to analyze the capabilities and the difficulties of the child in performing the task and develop a concrete proposal for the instruction.

Evaluation criteria:

Working in groups of two the students had to answer 2 questions regarding the capabilities and the difficulties of the child and had to describe their proposal for the instruction. They had to demonstrate the instruction and guidance of the child with their partner.

For the questions regarding the capabilities and difficulties of the child possible correct answers were predefined; correct answers were scored with 1 point. Regarding the proposal for the instruction and guidance of the child only the practical demonstration was judged. The evaluation of the instruction was undertaken by 2 independent evaluators.

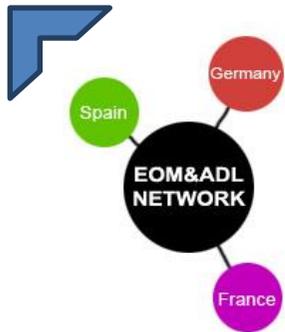
Extract from the evaluation criteria:

“Evaluation: The student has to demonstrate his guidance and instruction of the child with his / her partner. Only the practical demonstration will be judged.

Evaluation criteria:

- *The student demonstrates a suitable form of manual guidance of the child to turn the jacket (hand over hand approach) (1 point)*
- *The student uses precise verbalizations which are adequate for a 6-year old child (1 point).”*

The results of the assessment of skills and competency were summed up and judged as one unit. The maximum number of point was 7; The students passed the assessment with a minimum of 4 points (57%).



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Qualifications related to the profession of rehabilitation teacher (visual impairment)
Unit 5: – Specific key activities for OM
5.1.4 Teaching Techniques and strategies for the use of the long cane

Introduction :

The long cane is an essential tool in autonomy for blind and visually impaired people. For their safety, it requires special training. It is a central technique for professional in orientation and mobility therefore it was chosen as key activity for the mobility. In the following sections we will describe: the prerequisites for teaching techniques and strategies for the use of the long cane, the knowledge, skills and competencies required and the assessment that have been applied in the mobility.

Prerequisites of students who participate in a teaching unit on key activity 5.1.4 Techniques and strategies for the use of the long cane

- Knowledge of anatomical and pathophysiological of visual impairment and possible associated disorders
 - Knowledge of the psychological impact associated with visual impairment
 - Knowledge of psychomotor prerequisites
 - Knowledge of cognitive processes
-
- Understand the partially sighted people in a global approach : medical, social, environmental
 - Identify personal, behavioral, and cognitive skills useful for implementation and achievement of objectives (for the use of the long cane)
-
- Analyze the global approach, in order to respond appropriately to the needs, and to the demand
 - Suggest a relevant rehabilitation draft, adapted to the possibilities of the person

	<p style="text-align: center;">KNOWLEDGE</p> <p style="text-align: center;">Intellectual knowledge, learning activity</p>	<p style="text-align: center;">SKILLS</p> <p style="text-align: center;">Skills are acquired through the practice of a learning activity</p>	<p style="text-align: center;">COMPETENCES</p> <p style="text-align: center;">Ability to produce actions and appropriate responses to a situation</p>
<p style="text-align: center;">Basic long cane technical use</p>	<p>Knowledge of different long cane :</p> <ul style="list-style-type: none"> - long cane, pre-cane, yellow cane, various materials, various tips <p>Knowledge of technical use :</p> <ul style="list-style-type: none"> - slide technique - 2 point touch technique - on stairs <p>Knowledge of appropriate vocabulary :</p> <ul style="list-style-type: none"> - on body diagram, laterality, names of various parts of the cane 	<p>Identify the best tool for the people depending on : the tall of the person, the rhythm of walking, the environment of the person, the comfort</p> <p>Apply by oneself with blindfold to acquire experience on how to hold the cane, how to perform with in different situations</p> <p>Give exercises to improve good position, synchronization, coordination, wrist movement</p> <p>Ensure security in orientation and mobility : get in the right place, reassure</p>	<p>Check the technical mastery</p> <p>Identify errors and know to correct them</p> <p>Justify and argue the technical elements : <i>why should we do it like this?</i></p> <p>Transmit techniques clearly</p>

Description of the procedures and criteria of assessment knowledge, skills and competencies:

(Applied in an international seminar on cane techniques in Paris (France) , 16th – 19th December, 2013)

The assessment process was divided in two parts : the use of the cane on a general way and the use of the cane on the stairs.

a) Assessment of Knowledge:

The participants had to perform a written exam and had to answer 4 questions regarding knowledge on the canes : Knowledge of the cane as a tool + Knowledge of techniques for using the cane + Knowledge of the cane vocabulary

For each question possible correct answers were predefined and a maximum number of points for each question was defined too.

Evaluation criteria (example, extract from evaluation criteria):

Question No. 2 from the exam: *“Explain how to hold the cane”*

Maximum 4 points (1 point for each of the following methods):

- 1/ Put 4 fingers in the strap
- 2/ Insert the handle as a handshake
- 3/ Gripping with the index on the side of the rod
- 4/ Hand at the navel

b) Assessment of skills:

The participants had to present the movement to be performed with cane and to propose learning situations.

Evaluation Criteria n°1 : completeness of the sequence of cane techniques

- General movement
- Movement to be performed with cane climbing stairs
- Movement to be performed with the cane down the stairs

Evaluation Criteria n°2 : way to propose learning situations (in the same 3 situations)

- About environment
- About movement
- About coordination
- About synchronization

For each phase, the quality of the proposed situation was judged according to the following predefined criteria with a range of 0 to 4 points:

- 4 points: The student is able to explain to the VI people the movement to be performed with the cane.
- 3 points: Some minor ambiguities in the verbal requests have to be resolved.
- 2 point: A medium step of the sequence is missing, is not described correctly or the verbal description is misleading. The student is able to correct the missing or misleading description.
- 0 point: The student is not able to explain to the VI people the movement to be performed with the cane.

Or :

- 4 points: The student is able to propose learning situations in a perfect way including all aspects
- 3 points: The student is able to propose learning situations in a perfect way including all aspects after minor modifications
- 0 point: The student is not able to propose learning situations.

c) Assessment of competency

Competency (extract): *“Being able to analyze teaching situations, identify and correct mistakes*

The participants watched some pictures of a VI people using the cane in different situations. They had to analyze the mistakes and correct them.

Evaluation criteria:

Each mistake with a correction was scored with 1 point.

The results of the assessments (knowledge, skills and competencies) in both situation (general case and on stairs) were summed up and judged with an average score. The maximum number of point was 20 (average). Regarding the criteria of security of the VI people, depending on the quality of the cane lessons, the students passed the assessment with a minimum of 14 points (70%).