Australian Government

Department of Education, Employment and Workplace Relations

HLTAU507B Apply hearing device technology

Release: 1

HLTAU507B Apply hearing device technology

Modification History

Not Applicable

Unit Descriptor

Descriptor

This unit of competency describes the skills and knowledge required to identify and apply different types of hearing device technology

Application of the Unit

Application

Application involves having an understanding of the history, development and underlying principles of electro-acoustic features in hearing devices and how these affect the acoustic output of such devices

Work performed requires specific knowledge in relation to the recognition of a range of hearing disorders and the ability to communicate well

All tasks are conducted in accordance with industry standards, organisation policies and procedures, and infection control guidelines

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains Employability Skills

Elements and Performance Criteria Pre-Content

Elements define the essential outcomes of a unit of competency.

The Performance Criteria specify the level of performance required to demonstrate achievement of the Element. Terms in italics are elaborated in the Range Statement.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify different types of hearing devices	1.1 Demonstrate *knowledge of the different types and styles of hearing devices* 1.2 Demonstrate knowledge of different types of assistive listening devices 1.3 Demonstrate knowledge of other hearing devices 1.4 Demonstrate an understanding of hearing device components 1.5 Demonstrate an understanding of how hearing device technology has developed from analogue to digital systems
2. Apply knowledge and skills of acoustic properties of hearing devices	2.1 Identify and apply knowledge of different styles of ear moulds and custom made shells and their acoustic properties 2.2 Apply knowledge of electro-acoustic properties of hearing devices

ELEMENT	PERFORMANCE CRITERIA
3. Identify and apply knowledge in selecting *electro-acoustic features* and parameters of hearing devices	3.1 Identify and apply knowledge in selecting hearing device features 3.2 Identify and apply knowledge of features and parameters including: feedback suppression systems; noise cancellation systems; multiple memory hearing devices; multiple channel/multiple band systems; compression parameters; benefits and applications of directional microphone technology and other current technology
4. Work in collaboration with other agencies	4.1 Identify and communicate with a range of hearing device manufacturers and/or suppliers 4.2 Use hearing device specification to select appropriate hearing device/s 4.3 Accurately order an appropriate hearing device and ear moulds 4.4 Provide assistance to other health care professionals/services as required 4.5 Provide information and assistance to carers and significant others
5. Apply knowledge and skills of acoustics to hearing device fitting	5.1 Assess and modify ear moulds and custom shells for optimal physical fit and acoustic performance 5.2 Identify appropriate modifications to electro-acoustic output of a hearing device 5.3 Apply knowledge of assistive listening devices and how these complement and interact with or substitute for hearing instruments and other equipment 5.4 Assess acoustic output of hearing device by analysing hearing device functionality in test box

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level required for this unit.

Essential knowledge:

The candidate must be able to demonstrate essential knowledge required to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes knowledge of:

- Appropriate practices to ensure efficient use of power and other resources
- Hearing device components
- Electro-acoustic properties of hearing devices
- How electro-acoustic properties and features interact with each other and the human ear

Essential skills:

It is critical that the candidate demonstrate the ability to:

- Accurately analyse hearing device data
- Analyse hearing device function in a test box
- Formulate problem solving strategies
- Modify acoustics of ear mould
- Modify acoustics of hearing device

In addition, the candidate must be able to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes the ability to:

- Use interpersonal skills to relate to people from a range of social, cultural and religious backgrounds and physical and mental abilities
- Use numeracy skills including the ability to interpret data and record client results
- Use oral communication skills-language competence required to fulfil job role in a safe manner and as specified by the organisation. Assessors should look for skills in asking systematic questions, providing clear information, listening to and understanding client areas of concern, and demonstrating ethical practice and procedures in dealing with

REQUIRED SKILLS AND KNOWLEDGE

clients. Effective verbal and non verbal communication skills with a range of internal and external persons are essential together with competence in English or a community language, depending on the client group

- Use problem solving skills including an ability to use available resources and determine accuracy of test results
- Use reading and writing skills-literacy competence required to fulfil job roles safely and effectively. The level of skill required involves reading and documenting clinical information and understanding procedure manuals
- Work with others

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate this competency unit:	• The individual being assessed must provide evidence of specified essential knowledge as well as skills • Consistency of performance should be demonstrated over the required range of situations relevant to the workplace • Where, for reasons of safety, space, or access to equipment and resources, assessment takes place away from the workplace, the assessment environment should represent workplace conditions as closely as possible

EVIDENCE GUIDE

Access and equity considerations:

- All workers in the health industry should be aware of access and equity issues in relation to their own area of work
- All workers should develop their ability to work in a culturally diverse environment
- In recognition of particular health issues facing Aboriginal and Torres Strait Islander communities, workers should be aware of cultural, historical and current issues impacting on health of Aboriginal and Torres Strait Islander people
- Assessors and trainers must take into account relevant access and equity issues, in particular relating to factors impacting on health of Aboriginal and/or Torres Strait Islander clients and communities

Context of and specific resources for assessment:

- Access to appropriate workplace, equipment and instruments where assessment can take place or the simulation of realistic workplace setting, including access to equipment for assessments
- Relevant organisation policy, guidelines, procedures and protocols
- Relevant professional bodies policies and guidelines on the conduct of screening hearing tests
- Relevant legislative and regulatory documents
- Relevant publications from peer-reviewed sources
- Access to professional library for accurate and current relevant information
- Manufacturers' specifications for the use and storage of equipment

EVIDENCE GUIDE

Method of assessment

- Observation in the work place (if possible)
- Written assignments/projects or questioning should be used to assess knowledge
- Case study and scenario as a basis for discussion of issues and strategies to contribute to best practice.
- Clinical skills involving direct client care are to be assessed initially in a simulated clinical setting (laboratory)
  If successful, a second assessment is to be conducted during workplace application under direct supervision
- Practical case presentation
- Case studies and scenarios
- Interviews/Questioning
- Role plays
- Written exams

Related units:

This unit is to be assessed in conjunction with the following related units:

- HLTAU505B Dispense and maintain hearing devices for adults and provide communication counselling
- HLTAU506B Develop, implement and evaluate an individual hearing program
- HLTAU508B Identify needs for referral

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

RANGE STATEMENT

Knowledge of hearing devices and their technical features includes:	• Hearing aids • Assistive listening devices including implantable aids and other sensory devices • Alerting devices • Volume control, telecoil, direct audio input, directional microphones
Components include:	• Custom, modular, analogue, digital, programmable, non-programmable • Induction, infra-red, FM • Microphones, directional microphones, amplifiers, tone controls and filters, receivers, telecoil, audio input, remote control, bone conductor, batteries, A:D and DA converters
Acoustic features include:	• Venting, tubing horns, constriction, dampers • Mould and shell materials
Electro-acoustic features include:	• Gain, maximum power output, compression, AGCi, AGCo, output limiting, multiple channels, multiple bands
Advanced signal processing includes:	• Multiple microphones/ports, feedback managers, noise cancellers, multi-memories, adaptive features, frequency transposition, speech cue enhancement
Equipment used for hearing device evaluation includes:	• Test box • Insertion gain machine • PC • HiPro/Noah Link • Manufacturer's software • Recorded speech material

RANGE STATEMENT

Test box measurements may include:	• Assessment of acoustic performance • Determination of battery consumption • Comparison of acoustic performance against manufacturer's specifications to determine if hearing aid is working to specification • Setting coupler gain targets

Unit Sector(s)

Not Applicable