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Sharing Forum on Disability Awareness 'Supporting Students with Disabilities: the University's Obligations and Experiences'

Experience in Supporting the learning of Students with Hearing Impairment

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Works of CSLDS

- Sign Linguistics Research
- Deaf Education Research
- Deaf Training for Asia-Pacific Regions
- HKSL Training
- Undergraduate and Postgraduate Programmes
- Public Education

Staff in CSLDS

Deaf/ hearing impaired staff (d/hh): 28

Hearing staff: 36

Total: 64

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Outline

- 1 A quick glance at hearing impairment
- 2 Educational support for students with hearing impairment
  - Experience at CUHK
  - International practices for reference

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Hearing Impairment

[image: structure of ear

Outer ear 外耳: pinna (耳殼), external auditory meatus (耳道) tympanic membrane (耳膜)

Middle ear 中耳: ossicular chain (聽小骨鏈) – [from outer to inner chain: malleus (錘骨), incus (砧骨), stapes (鐙骨)], Eustachian tube (耳咽管)

Inner ear 內耳: cochlea (耳蝸), semicircular canals (半規管), vestibular nerve (前庭神經), facial nerve (面部神經), hearing nerve (聽覺神經)

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Problems with the Outer Ear

Atresia (外耳道閉鎖)

[image]

Picture adapted from Hawke & McCombe (1995) Diseases of the Ear. Canada: Manticore Communication Inc.

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Problems with the Middle Ear

Serious Otitis Media (中耳積水)

[image] showing bubbles in the middle ear

Picture adapted from Hawke & McCombe (1995) Diseases of the Ear. Canada: Manticore Communication Inc.

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Problems with the Inner Ear

Noise Induced Hearing Loss (噪音性聽力損失)

[image] cochlea

Picture adapted from Hawke & McCombe (1995) Diseases of the Ear. Canada: Manticore Communication Inc.

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Hearing Assessment:

Pure Tone Audiometry

Testing frequencies 測試頻率：

250Hz

500Hz

1000Hz

2000Hz

4000Hz

8000Hz

Test with Earphone (聽筒), Bone Vibrator (骨導振動器), Audiometer (聽力檢查儀)

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[image] audiogram

The diagram shows the hearing threshold of the patient is around 100-115 dBHL for both ear.

Test findings:

- 1 Fairly reliable results were obtained via Play Audiometry, suggesting profound hearing impairment.
- 2 Tympanometric findings are within normal limits bilaterally.
- 3 Speech reception improves with amplification and speechreading.
- 4 Expressive speech is defective.

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Types of Hearing Aids

- A 耳後式
- B 袋裝式
- C

[images show these three types of hearing aids]

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Types of Hearing Aids

- A 耳內式
- B 耳道式
- C 全耳道式

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Cochlear Implant

[image]

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Auditory Brainstem Implant

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Communication Barrier Remains

Technology still CANNOT bring NORMAL HEARING to d/hh children

Wearing hearing Aids, Cochlear Implants or Auditory Brainstem Implants does not equal to have normal hearing

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### Major Difficulties for Students with Hearing Impairment

Incomplete access to information

- Effects of hearing technology varies
- Restricted speech perception ability
- Limited information got from lip-reading
- Unable to follow class discussion
- Insufficient visual clues in class
- Lack sign language support

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### Post-Secondary Education Opportunities in Hong Kong

1. 92,000 Deaf/hard-of-hearing (D/hh) individuals in Hong Kong (Census and Statistics Department of Hong Kong, 2008)

2. Lower chance of receiving post-secondary education in Hong Kong

- D/hh: 5.8%
- All HK people: 20.9%

[data source: Census and Statistics Department, 2008]

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### Special Education Needs of Students with Hearing Impairment

1 Access of information through means the students consider as effective at the specific communication situation

- written language
- spoken language (with suitable aid for hearing)
- signed language (mostly through sign interpretation)

2 Respect of their identity or the identification they chose

- hard-of-hearing/ hearing impaired
- deaf

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## Educational Support for Students with Hearing Impairment

### Sign Interpretation

- For all classes, group project discussion, assemblies, student activities, etc.
- Research staff at CSLDS are providing the sign interpretation

[image left] An interpreter interpreting the lecture content to the two deaf students.

[image right] The two signing deaf students and their hearing classmate are doing a presentation in class.

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## Educational Support for Students with Hearing Impairment

### Note Taking

- Taking notes of teachers' and students' speech in lecture
- Staff assigned by the Department are providing the service

[images] Samples of notes

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## Educational Support for Students with Hearing Impairment

### Automated Lecture Recordings

- Screen capture of the lecturer's presentation materials and sign interpretation synchronized
- The video is made accessible for the deaf students through Blackboard

[images] Automated Lecture Recordings

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## Educational Support for Students with Hearing Impairment

### Challenges

#### 1 Sign Interpretation

- Lectures
  - Distance from the projection screen, lecturer and the interpreters to provide better access of information in class
- Group discussions or other activities like debate
  - Seating arrangement for interpreters during group discussions
  - Speed of message delivery and turn-takings

## 2 Note-taking

- Identifying suitable note-takers
- Medium of instructions of the lectures
- Quality of the notes

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#### Educational Support for Students with Hearing Impairment

##### Personal Counseling

- Regular meetings with the deaf students to review the support services
- Learning consultation
- Emotional support

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#### Experience in Supporting Non-Signing Students with Hearing Impairment

1. MA in Linguistics with a specialization in Sign Linguistics
  2. 4 hearing impaired students since 2010
- Support services for Deaf students required

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#### Support Services Provided

##### FM system – Enhancement of speech perception

- A transmitter and a receiver are loaned to the student free-of-charge
- Especially good for those with better hearing ability

[images] Transmitter and receiver

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#### Support Services Provided

##### Note-taking Service:

###### A) Student helpers are trained to use “C-Print” for:

- Real-time note-taking: type out what is said during the lectures on computer – as a clue to Deaf students
- Post-lecture editing: further edits the notes and then sends to the Deaf students
- Video recording: video-take the lectures and then compile the video clips and subtitles for the students

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International Practices

With reference to the services provided at the National Technical Institute for the Deaf (NTID), Rochester Institute of Technology (RIT), US

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List of Services at RIT

1 <http://www.ntid.rit.edu/support-services>

2 Access and Support Services

- Sign interpreting services
- Note-taking services
- Real-time captioning services (C-Print)
- Personal FM systems

3 Educational Support Services

- Tutoring
- Academic advising
- Personal and career counseling

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Thank you!

end