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(Behrmann, & Schaff, 2001, Edwards, 1995, (Scherer, 2005, 2004)

(Ladner, 2008, Johnson,2004, Belcastro, 2004)

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: Assistive Technology

.(Bradley & Poppen,2003)

Assistive Listening Devices (ALDs)

Hearing Technology

Hearing Aids ()

(Frequency-Modulated FM)

Cochlear

Implant

(Smith, 2004,

.Ladner, 2008)

Equipment Devices Daily

.(Smith, 2004, RNID, 2010)

Telecommunication

Text Phone

Devices For The Deaf (TDD)

.(RNID, 2010)

Video Phones

(RNID, 2010)

.(Ladner, 2008) MobileASL

Automatic Speech

(Kirk, et al, 2003) Recognition (ASR)

(Johnson, 2004) Videoconferencing Model

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.(Shery, 2003)

(Polson, 2000, Noaks, 2003)

.(Shery , 2003)

(Bradley & Popper ,2003, Augusto &

.Schroeder, 1995)

(Copel, 1991)

.(Shery , 2003)

(Bobbie & Azar ,2003)

(Jacobs , et al, 2003)

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.(Hallahan &, Kuffman,2009) Deafness

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(Pape et al , 2002)

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| 26,36 | 29 | | -3 |
| 20 | 22 | | -4 |

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| % | | | |
| 16,36 | 18 | | -5 |
| 11,81 | 13 | | -6 |
| 5,45 | 6 | | -7 |
| 5,45 | 6 | | -8 |
| 4,54 | 5 | | -9 |
| 2,72 | 3 | | -10 |

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| | 0,26 | 2,70 | |
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| | 0,23 | 2,96 | |
| | 0,23 | 2,96 | |
| | 0,28 | 2,94 | |
| | 0,39 | 2,85 | |
| | 0,40 | 2,83 | |
| | 0,43 | 2,79 | |
| | 0,41 | 2,79 | |
| | 0,43 | 2,79 | |
| | 0,47 | 2,76 | |
| | 0,47 | 2,73 | |
| | 0,54 | 2,64 | |
| | 0,59 | 2,62 | |
| | 0,59 | 2,60 | |
| | 0,64 | 2,59 | |
| | 0,83 | 1,70 | |

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$$/ \quad - \quad =$$
$$0,66 = 3 / 1 - 3 =$$

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$$2,33 = 0,66 + 1,67 =$$
$$3 = 0,66 + 2,34 =$$

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$$2,33 \quad 1,67 \quad -2$$

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| | 0,24 | 2,89 | | |
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| | 0,26 | 2,93 | | -1 |
| | 0,29 | 2,91 | | -11 |
| | 0,30 | 2,90 | | -10 |
| | 0,31 | 2,89 | | -7 |
| | 0,31 | 2,89 | | -6 |
| | 0,31 | 2,89 | | -3 |
| | 0,32 | 2,88 | | -4 |
| | 0,33 | 2,87 | | -9 |
| | 0,34 | 2,86 | | -8 |
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| 0,248 | 2.750 | 8 | | | |
| 0 | 2.666 | 1 | | | |
| 0,481 | 2.521 | 11 | | | |
| 0,047 | 2.766 | 2 | | | |
| 0,249 | 2.666 | 4 | | | |
| 0,192 | 2.622 | 3 | | | |
| 0 | 2.400 | 1 | | | |
| 0,086 | 2.833 | 4 | | | |

| | | | | | |
|-------|-------|----|--|--|--|
| 0,237 | 2.737 | 32 | | | |
| 0,223 | 2.814 | 14 | | | |
| 0,241 | 2.684 | 19 | | | |
| 0,086 | 2.786 | 5 | | | |
| 0,377 | 2.466 | 2 | | | |
| 0,094 | 2.666 | 2 | | | |
| 0 | 0 | 0 | | | |
| 0,047 | 2.566 | 2 | | | |

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| 0.583 | 0,382 | 0.0265856 | 1 | 0.0265856 | |
| 0.211 | 1,531 | 0.1064980 | 3 | 0.319494128 | |
| 0.061 | 3.604 | 0.2506995 | 1 | 0.2506995 | |
| 0,345 | 1.120 | 0.0778672 | 3 | 0.233601743 | * |
| 0.788 | 0.073 | 0.0050507 | 1 | 0.0050507 | * |
| 0.618 | 0.588 | 0.0416078 | 3 | 0.124823664 | * |
| | | 0.0695545 | 97 | 6.746787856 | |
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| 0,463 | 2.875 | 8 | | | |
| 0,463 | 2.663 | 1 | | | |
| 0,111 | 2.917 | 11 | | | |
| 0,707 | 2.500 | 2 | | | |
| 0,216 | 2.863 | 4 | | | |
| 0,532 | 2.606 | 3 | | | |
| 0 | 2.636 | 1 | | | |
| 0,500 | 2.750 | 4 | | | |
| 0,323 | 2.812 | 34 | | | |
| 0,248 | 2.894 | 32 | | | |
| 0,092 | 2.948 | 14 | | | |
| 0,173 | 2.933 | 19 | | | |
| 0 | 3.000 | 5 | | | |
| 0 | 3.000 | 2 | | | |
| 0,128 | 2.909 | 2 | | | |
| 0 | 0 | 0 | | | |
| 0 | 3.000 | 2 | | | |
| 0,189 | 2.927 | 76 | | | |

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| * 0.019 | 5.66 | 0.328 | 1 | 0.328 | |
| 0.929 | 0.151 | 0.0087522 | 3 | 0.026256699 | |
| 0.739 | 0.112 | 0.0064670 | 1 | 0.0064670 | |
| 0,966 | 0.089 | 0.0051260 | 3 | 0.015378282 | * |
| 0.057 | 3.696 | 0.214 | 1 | 0.214 | * |
| 0.556 | 0.697 | 0.0403505 | 3 | 0.121 | * |
| | | 0.0579071 | 97 | 5.61 | |
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