**Supplementary Material 15.** Definitions of severity degree in speech and language disability

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| Grade | Definitions |
| Level | Number |
| 3 | 1 | Unable to produce sounds or conduct a simple conversation using an electrolarynx or esophageal voice |
| 2 | Stuttering that interrupts ≥97% of the flow of speech |
| 3 | Articulation disorder with consonant accuracy <30% |
| 4 | Expressive language quotient <25 with minimal or no meaningful speech\* |
| 5 | Receptive language quotient <25 with minimal or no understating of simple words\* |
| 4 | 1 | Speech disorder with partially possible vocalization (pitch, intensity, and quality) |
| 2 | Stuttering that interrupts the flow of speech (children: 41–96%, adults: 24–96%) |
| 3 | Articulation disorder with a consonant accuracy of 30–75%  |
| 4 | Expressive language quotient of 25–65 with highly limited expression\* |
| 5 | Receptive language quotient of 25–65 with notably minimal understanding\*  |

\*Any language or speech disorder caused by intellectual disability or autism is excluded.