**Supplementary material 1. Description of Valedo video games.**

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| **Game** | **Description** |
| **Diver** | **Goal of training: Trunk mobilization**  **Participant must execute fine, controlled trunk (flexion/ extension) or pelvic (anterior/posterior tilt) movements in a sagittal plane to make the caterpillar swim up and down to collects the shells and avoid the obstacles.** |
| **Glider** | **Goal of training: Trunk mobilization**  **Participant must execute fine, controlled combined movement of trunk (flexion/ extension and lateral flexion to left and right) or pelvic (anterior/posterior and left/right tilt) movements to fly up and down through the hoops.** |
| **Clock** | **Goal of training: Movement awareness**  **Participant must execute fine trunk (trunk flexion/ extension) or pelvic (anterior/posterior tilt) movement to move the platform to the left and right, then return to the midline position.** |
| **Colours** | **Goal of training: Trunk mobilization**  **Participant must execute fine combined movement of trunk (flexion/ extension and lateral flexion to left and right) or pelvic (anterior/posterior and left/right tilt) to move the ball toward the corresponding colour (e.g. green ball to green colour)** |
| **Brick-breaker** | **Goal of training: Trunk mobilization**  **Participant must rotate trunk the left and right in a controlled manner to avoid losing the ball.** |
| **Fruits** | **Goal of training: Movement isolation**  **Participant must make controlled lateral pelvic tilt movements while keeping the trunk still to put every piece of fruit in a corrected respective basket (e.g. watermelon into the watermelon basket)** |

**Supplementary material 2: Identifying the level of a participant’s ability by researcher based on TIS and BBS results**

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| **Levels** | **Description** | **TIS and BBS scores** | **Games** |
| **Level 1** | * Able to sit independently for over 10 seconds. * Able to passively place and hold the non-paretic leg on the paretic leg. * Able to actively place and hold the paretic leg on the non-paretic leg; backward displacement of the trunk over 10 cm is allowed. | Total TIS ≤ 6  BBS < 45 | Diver  Glider  Clock  Brick-breaker  **Practice:** from sitting position |
| **Level 2** | * Able to sit independently for over 10 seconds. * Able to passively place and hold the non-paretic leg on the paretic leg. * Able to actively place and hold the paretic leg on the non-paretic leg; no backward displacement of the trunk over 10 cm. * Able to touch bed/table with hemiplegic and non-hemiplegic elbow and return. Moves actively with or without compensations; appropriate shortening or lengthening is not necessary. | TIS static =7  TIS dynamic ≤ 6  BBS < 45 | Diver  Glider  Clock  Colours  Brick-breaker  Fruits  **Practice:** from sitting position |
| **Level 3** | * Able to sit independently and appropriately shorten/lengthen to touch bed/table with hemiplegic and non-hemiplegic elbow. * Shortening/lengthening when lifting the pelvis must not be correct. * Asymmetrical rotation of the upper portion of the trunk. * Static standing is safe. | TIS static =7  TIS dynamic ≤ 6  BBS ≥ 45 | Diver  Glider  Clock  Colours  Brick-breaker  Fruits  **Practice:** from standing position |
| **Level 4** | * Able to lift the pelvis from bed/table without compensation. * Rotation of the lower portion of the trunk is possible with or without compensation. * Dynamic standing is safe. | TIS static =7  TIS dynamic =10  TIS coordination:1-2=4, 3-4 <3  BBS ≥ 45 | Diver  Glider  Clock  Colours  Brick-breaker  Fruits  **Practice:** from standing position at medium to hard level |