



# SKI TEACHING METHODOLOGY REFERENCE GUIDE

Based on Past and Current CSIA Concepts  
(Fall 2023)



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## About CADS

- CADS Mission
  - CADS provides opportunities for people with disabilities to experience the joy of participating and competing in alpine Snowsports. CADS achieves this by developing and promoting adaptive Snowsports through partnerships, training, and instructor certification programs.

You will find more information in topics below by clicking:

- [CADS Purpose](#)
- [CADS Technical Committee](#)
- [Certification Pathway](#)

## Acknowledgment

The CADS Board and the CADS TC want to acknowledge that the CSIA has contributed considerably to CADS teaching methodology. CADS TC wants to thank the CSIA for allowing CADS to adapt CSIA methodology into CADS methodology.

# CADS Teaching Methodology

- **Assessment of Abilities: Ask, Observe, Test**

- **Initial AOT (Getting to know your learner)**

The objective of the AOT process is to fully understand the individual's background (attitude, confidence, past experience, mobility, strength levels, balance, and athleticism). This information is crucial in planning your lesson.

- **Ability within disability:**

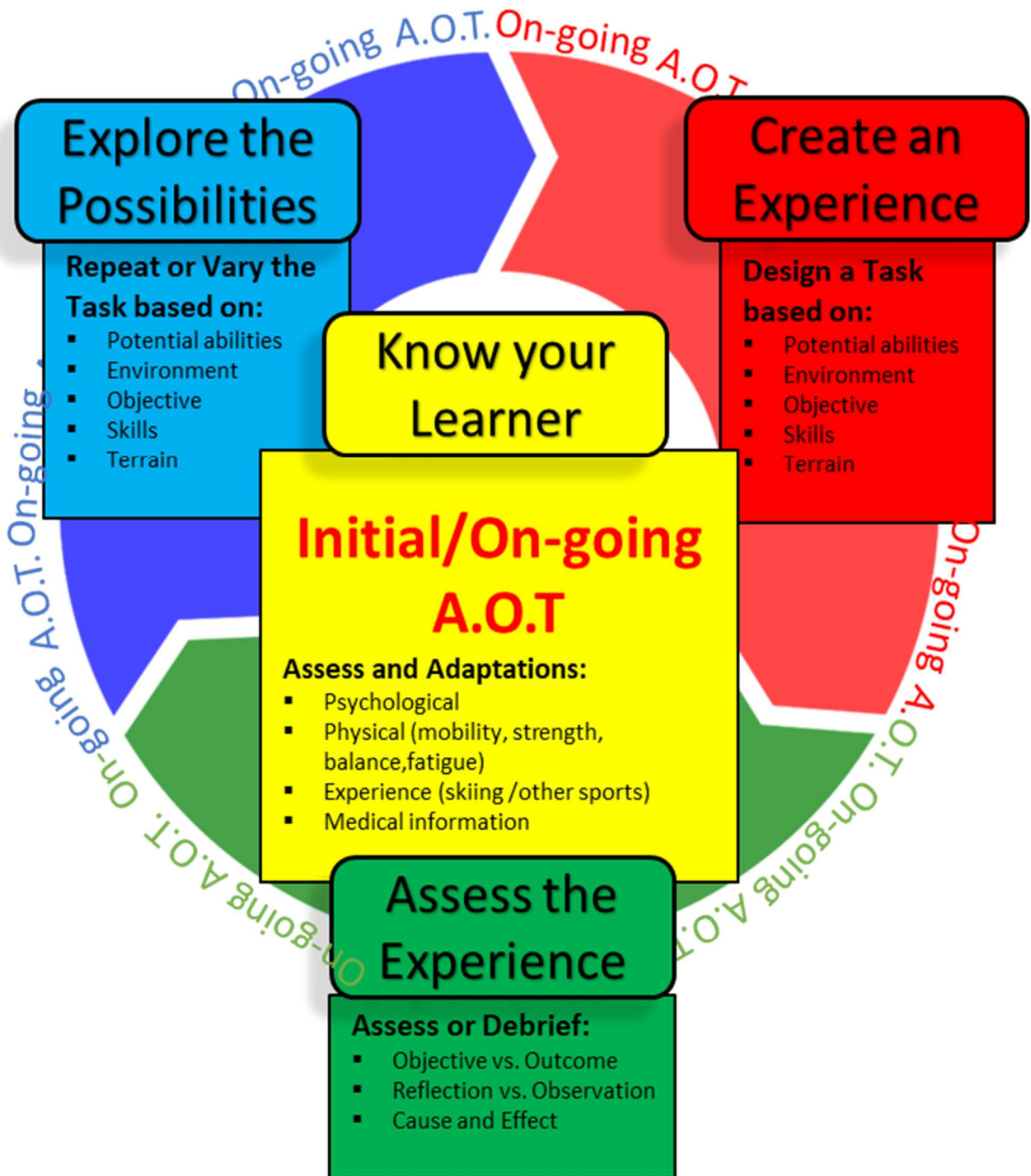
Focus on what your student can do. Determine their level of injury/nature of disability, balance, mobility and strength. Use that information to adapt and plan to ensure the development of the student to the best of their abilities.

- **Challenges we need to be aware of:**

Psychological, physical, experience, medical information

Refer to the CADS Manual, for a more detailed description of the initial AOT: [CADS Manual](#)

# CADS Collaborative teaching approach



# CADS Collaborative approach

Start with know your learner in the center of the wheel, then move to create an experience, then to assess the experience, then on to explore the possibilities.

- **Know Your Learner (AOT) (On Going AOT throughout the lesson)**

Getting to know your Learner and building a rapport is a vital step in creating a successful and enjoyable lesson; the Learner is the 'hub'. This learner-centered approach guides all of the decisions we make as ski instructors, from the terrain we choose and the movements we prescribe, to the communication style and manner of engagement we adopt.

- **Create an Experience**

Understanding the many characteristics of a learner will help determine the experiences from which they will most benefit. Designing and implementing concrete tasks can help a learner understand both what they should try to do and the possible outcomes, making the tasks measurable for them and observable for the instructor. Awareness of the possible outcomes can help a learner recognize if they are successful or not when attempting a particular task (reflecting IN action). For some learners, describing what they might "feel" as they make certain movements can add clarity and specificity. A well-built task provides parameters for both the task itself and for subsequent reflection.

- **Assess the Experience**

By observing learners as they do an assigned task, you see both the results of their efforts and the effectiveness of your approach. Encouraging a learner to reflect on their experience (reflecting ON action) is proven to facilitate longer term learning. It is important to keep this process positive. Recognizing negative or unintended results is valuable but should not become the focus. Just like checking a map to ensure you are on the right road, ongoing learner/ instructor debriefs can help calibrate the direction of the lesson throughout. Through this process, the instructor can reflect on their decisions and the guidance they have provided and adjust the approach if required.

- **Explore the Possibilities**

Skiing is exciting and learning anything new can be thrilling at any level. A balance of skill development and practical application is important for a learner to understand what they have accomplished and how to apply it out on the slopes. The autonomy to explore the snow environment is invigorating and empowering.

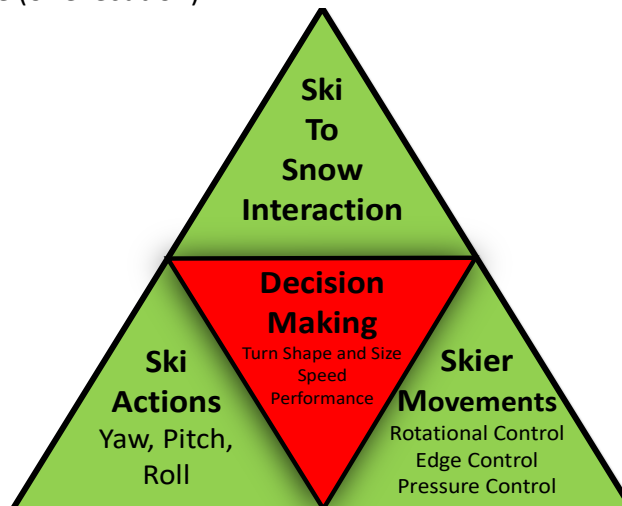
Repetition of a successful task can help to consolidate the correct movements and provides an opportunity to practice the new skill.

Varying one aspect of a task at a time can help a learner deepen their understanding of a concept and learn how much and when to apply the movements in relation to their objectives. Task variations also allow the instructor to adjust the approach to be more effective, or in other words, they create a new experience that begins the "loop" again.

# Skills Framework

- **The skills framework**

- Breaks down the sport of skiing into simple elements providing a way to define what a skier does with their skis and how they must move in order to do it.
- A guide for assessing and developing skiers and designing lesson plans.
- Defines the interaction between the snow, the ski and us.
- The triangle provides clear objectives for the ski lesson and the methodical approach to evaluating the skiing outcome (or execution).



- **The Decision-making Process**

At the center of the skills framework are the objectives of this lesson the desired outcome of the task at hand, part of the ‘Create an Experience’ aspect of the Collaborative teaching approach. These objectives can be categorized into four primary areas turn shape, turn size, speed, and performance. Consideration of these areas adds understanding and specificity to the ski lesson objectives. It is important to consider the terrain and snow conditions. This decision-making process is dynamic as the situation and environment change, the goal of the process may be adjusted accordingly.

- **Ski to Snow Interaction**

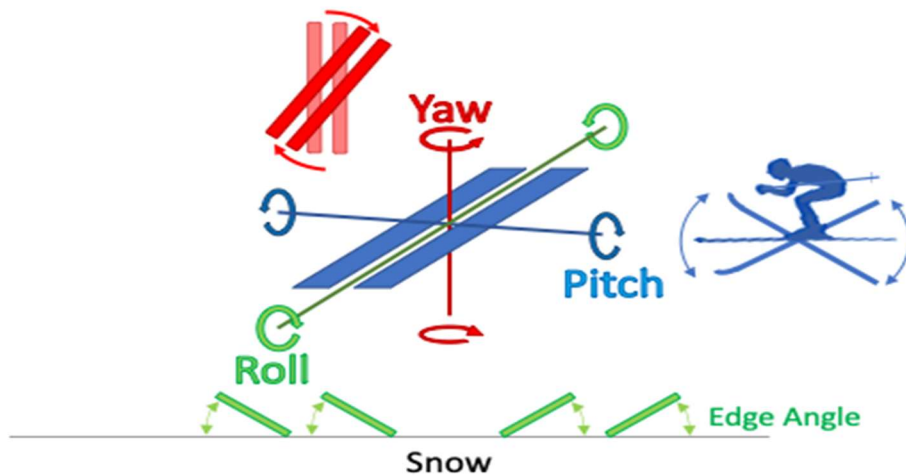
Once the objectives for the lesson are established ski to snow interaction can be used to evaluate the outcome. A comparison of the desired result to the actual result.

- Are skis drifted, carved or steered and how much?
- When is it happening? (Before, at or after the fall line?)
- How long is it happening? (Where to where?)

- **Ski Action**

Skis move on 3 different rotation axes. When a skier comes down a slope, skis move in a combination of yaw, pitch and roll. Also, the two skis move independently of each other. These axes relate directly to the control skills of rotation, edging, and pressure.

- **Yaw (Vertical, Rotation)**
  - Skis can change direction to travel. This can add steering angle to the turn. Let's focus on where the rotation center is. Is that close to the ski tips, ski tails or underneath the boots?
- **Pitch (Lateral, Forward and Aft)**
  - Skis move from flat to tips up or down (tails down or up). This happens passively like skis go through bumps, actively the skier can control or combination of both.
- **Roll (Longitudinal, Edge Angle)**
  - This is edging. How much edge angle do the skis need to perform?



The skills are comprised of the 3 essential building blocks of skiing; rotational, edge and pressure control.

Each of the skills requires the action of the skis and the movements to create that action. It is important to understand the distinction of and relationship between these cause-and-effect components. Every aspect of ski technique can ultimately be evaluated by how it affects the skis' interaction with the snow.

- **Skier Movement**

The skis are only half of the cause-and-effect equation. The other half of them is comprised of the movements we employ to control and manage the skis. Control movements refer to the alignment of our body and our movements. The skis are our base of support (BOS). Combining alignment and movement enables us to control the relationship between our base of support (BOS) and our center of mass (COM): our balance. The skier's movements are directly linked to the control skills (Rotational control, Edge control, Pressure control).

- **Rotational Control**
  - Applying a turning or twisting force to the skis.
  - When a skier is turning, a steering angle must be there. Short radius turns need a bigger steering angle and long radius turns need a smaller steering angle. No steering angle means the skier goes straight. Ski's side cut creates steering angle and rotational control can maintain the turn.
- **Edge Control**
  - Edging, tipping, or tilting the skis in relationship to the snow surface.
  - A skier can't turn with skis flat. Appropriate edge angle assists a ski to turn. More edge angle possibly can give better steering angle using the ski's side cut.
- **Pressure Control**
  - An overarching term for manipulating the forces fore/aft, from ski to ski, and vertically.
  - The pressure changes during turning, in general, the skis get most pressure in the middle of turns or more pressure towards to downhill. The skier should regulate the pressure throughout the turns.

- **Blending of Skills**

- We use a combination or blending of these rotational, edging, and pressure control skills in every turn.
- The desired Objective determines the ski-to-snow interaction.
- The ski-to-snow interaction determines the blending proportions of the skills.
- The skill blending determines our movements.

**Remember: What do I want to happen, what does the ski need to do to accomplish that, and how do I make the ski do it.**

- **Stance and Alignment**

Stance (relative body position) and alignment (relative position between body segments) determines the positioning of the body for the most efficient and effective ski control and movement actions (rotational, edging and pressure). As referenced in many sports, an athletic stance is ideal.

- **Balance**

When skiing we use dynamic balance. Dynamic balance is achieved when all forces on our center of mass are in a state of equilibrium. Within the skills framework balance is an outcome of manipulating the ski-to-snow interface (the BOS) in order to direct forces through the center of mass (COM).

- **Base of support (BOS)**

The base of support is the location of a skier's weight on the snow: the skis.

- **Center of mass (COM)**

The center of mass is a specific point in the body where we consider the mass of the skier and equipment to be concentrated. It is generally located just below the navel but moves as we change our body position.



# Beginner Progression

## 1. Equipment (Indoors)

Choose the proper equipment based to the initial AOT and the student's abilities.  
Develop familiarity with the equipment.

## 2. Mobility (Indoors / flat terrain)

Familiarization with equipment (ski boots, skis, outriggers, etc.)  
Build confidence in mobility and balance with skis off and then on.  
Side-stepping and pushing with poles also create mobility in the skiing environment.

## 3. Gliding (Gentle slope with a flat run out)

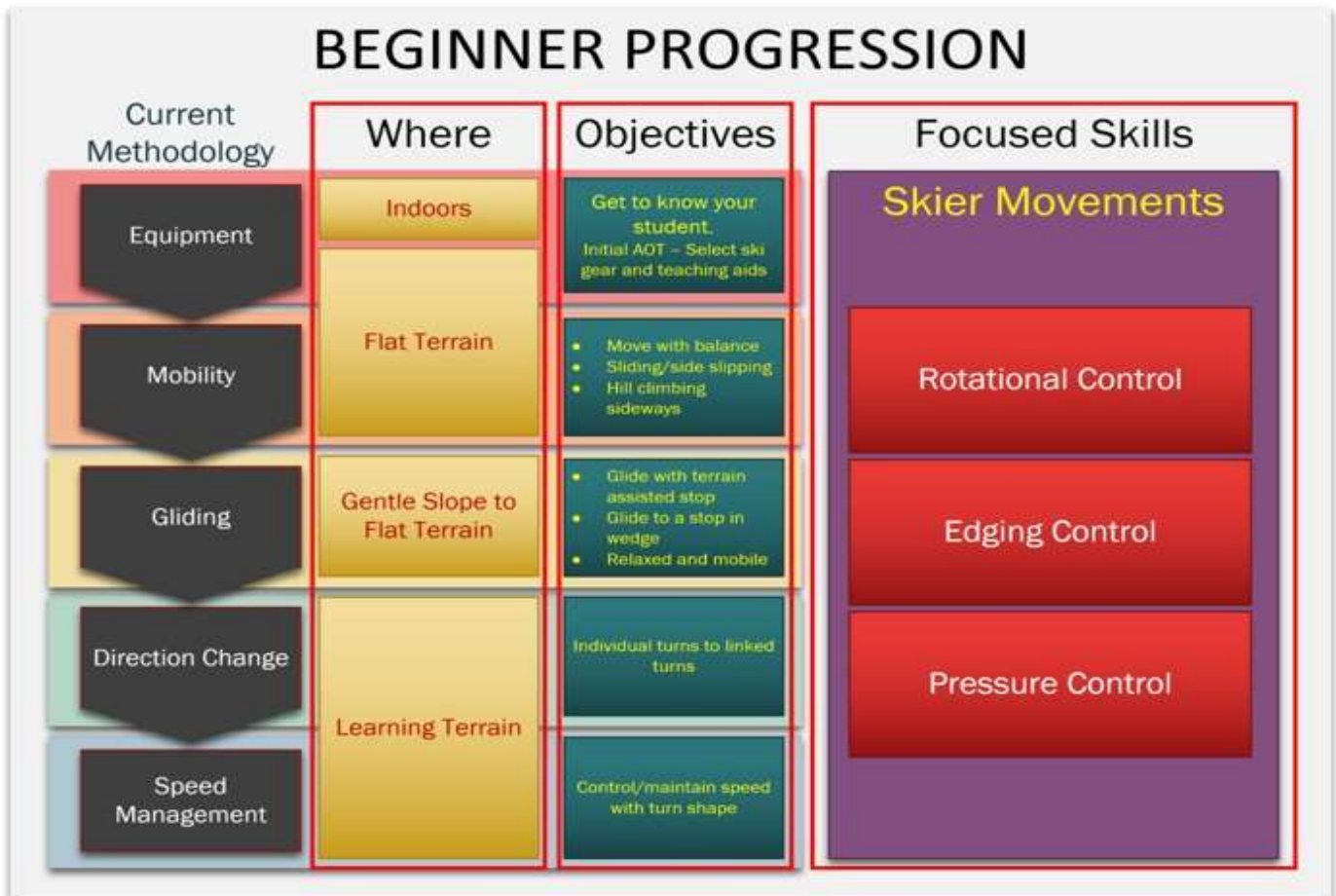
Build confidence by sliding in a straight line and focus on balance.  
Develop the ability to use a gliding wedge to control speed or to stop on command.

## 4. Direction Change (Gentle slope)

Introduce single turns to a stop, then linking multiple turns.  
Encourage round drifted turns and light edging.

## 5. Speed Management: (learning terrain)

Introduction to speed management by using the turn shape and experiment with changing the turn radius and speed (short and long turns). Speed management is used for slowing down, maintain speed or going faster, depending on the situation.



# CADS Ski Instructor Level 1

## CADS Teaching Methodology Session + CADS Ski Instructor L1 Training + Evaluation

### CADS Teaching Methodology Session

This session is for candidates who are not CSIA certified to get familiar with the CADS Teaching Methodology. This session is run by a CADS Course Conductor or a CSIA Instructor (Level 2 or higher).

### CADS Ski Instructor L1 Training

This training is for candidates to prepare for the CADS Level 1 evaluation. The training session is run by a CADS Course Conductor.

### CADS Level 1 Evaluation run by a CADS Course Conductor

Evaluation Criteria:

- **Skiing**
  - Intro to parallel
  - Wedge Turn
  - Wedge Turn (Backwards)
  - Hockey Stop
  
- **Teaching (VI, 3-4 Track, Sitski, ASD/CI)**
  - AOT
  - Teaching Gliding Experience on a Learning Area
  - Using a lift
  - Teaching Aids
  - Tethering Stand-up Skier
  - Safety
  
- **Global**
  - AOT Critical Safety Points
  - Duty of Care
  - Alpine Responsibility Codes

**Level 1 Marking grid on snow line.**

# Sample lesson plan

LEARNERS NAME:

DATE:

INSTRUCTOR NAME:

LESSON TIME:

LEARNER INFORMATION (i.e. from registration form or medical form):

INSTRUCTOR RESPONSIBILITY EACH LESSON:

- Weather forecast
- Grooming report
- Other safety concerns

AOT: ASK. OBSERVE. TEST

- Meet your learner. While moving through AOT, create opportunities to connect with your learner and develop trust and confidence.
- Discuss goals with your learner. Remember, many 1<sup>st</sup> timers may not know what they want! Others may tell you they want to be on the next Canadian Paralympic team! Goal set together as much as possible.
- Goals may include overall season, and then more specific to each lesson.

EQUIPMENT FOR THE LESSON:

POSSIBLE TEACHING AIDS:

TEACHING TECHNIQUES:

- Identify best terrain for task.
- Through each of the CADS teaching steps, focus on mobility and balance, as much as learner is able.
- Note successes and areas of improvement throughout the lesson. This will help to frame both your review and your next lesson.

IDENTIFY AREAS FOR IMPROVEMENT:

- i.e. lack of mobility – have games or exercises to develop

CREATE CONTINGENCIES:

- what if? Foul weather? No snow? Learner melt down? Equipment malfunction?

LEARNERS NAME:	
DATE:	
LOCATION/MOUNTAIN:	
INSTRUCTOR NAME:	
LESSON TIME:	
LESSON GOALS:	

EXAMPLE:

<p><b>Lesson 1:</b> <b>9am - 11 am</b></p>	<ul style="list-style-type: none"> <li>• <b>introductions</b></li> <li>• <b>AOT</b></li> <li>• <b>Equipment fitting</b></li> <li>• <b>Sliding on snow on the flats, change direction, play tag.</b></li> <li>• <b>Wrap up/review</b></li> </ul>	<ul style="list-style-type: none"> <li>• Sunny day!</li> <li>• Learners Dad was present</li> <li>• moderate level of independence, made jokes!</li> <li>• overall poor balance</li> <li>• took skis off to play tag – laughed lots</li> <li>• maybe a physical balance aid??</li> </ul>
<p><b>Lesson 2:</b> <b>9 am - 11 am</b></p>	<ul style="list-style-type: none"> <li>• <b>Check in - review last lesson</b></li> <li>• <b>Intro balance aid</b></li> <li>• <b>Sliding to stop</b></li> <li>• <b>Learn to climb back up gentle hill</b></li> <li>• <b>Wrap up/review</b></li> </ul>	<ul style="list-style-type: none"> <li>• Learner was tired</li> <li>• Balance aid worked well</li> <li>• Dad left ½ way through lesson</li> <li>• Learner is eager to learn</li> </ul>
<p><b>Lesson 3:</b> <b>1 pm - 3 pm</b></p>	<ul style="list-style-type: none"> <li>• <b>Check in - review last lessons</b></li> <li>• <b>Sliding to stop, climbing up hill</b></li> <li>• <b>Turn R, then L</b></li> <li>• <b>Link turns</b></li> <li>• <b>Wrap up/review</b></li> </ul>	<ul style="list-style-type: none"> <li>• Much better time for lesson for learner</li> <li>• Turns to L were good</li> <li>• Turns to R – kept falling over</li> <li>• Need to review basic balance and mobility</li> <li>• Need some specific exercises</li> </ul>