

# Senior Specialist Accreditation Fundamentals Handbook



# Senior Specialist Handbook - Skiing/Riding with Seniors

## PART I SKIING/RIDING WITH SENIOR SKIERS - Cookie Hale, Horst Abraham, PJ Jones

### OVERVIEW - SETTING THE STAGE

Snow, mountains and gravity provide us with a most formidable environment in which we can search for and find ourselves, and our limits as we push beyond them. This pursuit is deeply motivating and inspiring, requiring coaches to make the learner's experience the center of attention. Learning happens best at the confluence of adventure and curiosity. While the triad 'Safety – Fun – Learning' is still at the core of what we do, what follows



will powerfully influence how we do our work. The basic principles are that good instruction is **student centered** with the instructor facilitating learning by creating a **learning partnership** using an **outcome based** model, developed through **experiential learning** (i.e. skiing/riding) and delivered **from the heart**.

The good guide/coach does not 'teach' skiing, but we connect with **people** who ski and ride. This is especially true with the senior group. It is of paramount importance to balance reliable and proven information with the humanity and social aspect of the experience. Many times, for seniors, the social, human part of the experience is more important than the content. We are not 'teaching', we are helping create an experience. The goal is for everyone to come back for more!

#### Social experience:

With seniors, often they do not want a "lesson" or even to "learn" or "improve". Often all they want is to ski with others, enjoy the time and stay in one piece. It is the job of the coach to provide a safe and fun experience on the snow. Learning will most likely occur as a bonus without focusing on it!

#### Learning experience:

However, when a client comes to you for the purpose of 'learning', it is the responsibility of the coach to not simply pat him on the back, tell him how great he is doing, etc., but to try and help him improve his skiing, and have fun doing it. This even applies to the very accomplished, possibly famous retired senior executive, even if he 'knows it all.' If that senior executive comes asking you that he wants to improve his skiing, and you see that he is very comfortable in a technique that is not helping his skiing, then you, as a professional coach, should *join with him and guide him* into his choosing a new technique or strategy that will improve his skiing and make it more pleasurable for him.

#### Collaborative experience:

There is an important philosophical premise for the professional senior coach; even though you are the professional and expert, **the learning belongs to the client**. It's their world and you need to start by entering into their world, not them entering into your world. As you enter into the reality of the learner, behave like a curious visitor, full of questions and admiration for what you find there. For



that reason, have the skill and humility to turn the tactical lead over to the learner (they must own the experience). You, the coach, take responsibility for safety and managing the learning and performance environment. The concepts and experiences that you share also need to be accurate, proven and reliable, making sense to the learner. No BS.

Inspire the learner to be in touch with their experience, mobilizing their senses to come alive in ways they have not experienced in a while. Step away from the misguided thought

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of you being the task expert and let the student take the lead when it comes to making their aspirations take form. You, as the coach, are the process expert, orchestrating the thoughts, feelings and actions that generate the fascinating magic of learning and performing at one's best and even beyond!

Deep caring for your student (who may at any time be a learner, performer, collaborator, patient, leader, follower) and curiosity for what the learner experiences is the mantra of the effective coach.

As the coach, you are also a learner. Every person you ski with is a person who knows things that you don't and you can also learn from them. **Connecting and listening, with an open, loving, truth filled heart is the foundation for skiing and riding with seniors.**

## SECTION 1. RATIONALE - WHY A SENIOR SPECIALIST ACCREDITATION

Baby boomers are redefining both aging and retirement. They are living longer and staying active in sports longer. More and more of these boomers are continuing to ski, and even learning how to ski and ride, well into their 80's and beyond. **As professional instructors, we would be negligent if we were not to recognize this important and growing segment of our clientele and develop products and programs for their benefit.**

Developing programs that welcome and support the senior client, can also generate more growth in other age groups as well. It is often grandma and grandpa who buy the lessons and tickets for the grand kids. Many times families will choose to frequent the resort that grandma and grandpa also enjoy. Seniors are very influential.

Developing senior programs to be taught by senior coaches is also good for retention of membership in PSIA. The senior coaches stay members and stay involved.

## SECTION 2. WHY IS THE SENIOR SKIER/RIDER STILL SKIING/RIDING

Some seniors have skied /ridden their whole life while others are new to the sport. Some are addicts who ski /ride for the love of it alone. Others ski/ride for the physical benefits of staying in shape and the opportunity to be outside, in the mountains in the winter. Others simply like the excuse that skiing/riding provides to travel the world visiting various resorts. Many others ski/ride largely for the social aspect of it, especially for the family opportunities it affords - or simply a combination of several reasons!

So, even though there are many reasons that seniors are skiing/riding, the one motivation that is more prevalent in the senior population, is people, the social aspect. Seniors value life differently than young adults. Life is precious, and getting shorter all the time for them. People and relationships transcend and have more worth than the material world. With age, come more losses. With age, many times, comes the attitude to celebrate the day and enjoy living with your family and friends. Thus, the social aspect of skiing will be generally more important for the senior. This cannot be over emphasized!

## SECTION 3. WHO IS THE SENIOR SKIER/RIDER

For our purposes here, we are considering seniors to be those who are approximately age 50 and over. Internationally, this is a commonly accepted age for classifying seniors. (Now that's really really young!!!)

In the senior population, there is as much diversity, or more, as in the general population. Many seniors have fascinating histories. Considering the importance of the social aspect for seniors, it is rewarding to encourage discourse and interaction within the group. This will help build a strong group dynamic as well as enrich the time together. Everyone, including the coach, will grow and gain from the time spent together.



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A brief, working knowledge of some pertinent “aging” characteristics also leads to being more success in coaching senior clients. However, ‘senior’ is by no means a homogeneous group! We will briefly consider the senior within the framework of the cognitive, affective, physical and spiritual domains, because this is a familiar model. However, that is not the only defining model for understanding humans. The emphasis for seniors is simply that there is such diversity, you cannot pigeon hole them!

### **Cognitive Domain - Mental - Thinking, Learning, Remembering**

Sometimes cognitive decline may accompany aging, leading to some memory problems and slower intake and processing of information. However, that is not always true and often there is no decline at all. There are indeed some processes that are stronger in the older adult. Yes, wisdom is real. Following are salient points from research that will help in the understanding of the senior client.

- “Although younger adults appear more likely than older adults to interpret a story analytically, older adults appear likely to focus less on the story's details and more on the gist of the story and its underlying significance (Adams et al., 1997).”
- “Older adults also have shown similar or better abilities to represent, update, and recall more global and holistic levels of understanding (e.g., Radvansky, 1999).”
- “Prior research has demonstrated that aging is associated with increased dependence on schematic knowledge (e.g., Hess, 1990).”
- “Aging may be marked by the increased salience of associative and automatic processes such as heuristics (Mutter and Pliske, 1994; Yates and Patalano, 1999).”
- “Although life-span theories (e.g., Fredrickson and Carstensen, 1990; Labouvie- Vief, 1999) do not make predictions about the salience of automatic, associative, and intuitive processes versus controlled and analytical processes in older (compared with younger) adults, aging research nonetheless supports this distinction. For example, Jennings and Jacoby (1993) demonstrated that older adults performed less well than their younger counterparts on tasks that required conscious control of memory, but they performed equally well on tasks that relied on automatic memory processes (i.e., familiarity).”
- Seniors will make decisions more slowly and cautiously than younger adults, using decision strategies that are less cognitively demanding. They are less flexible in learning and revising judgment and decision strategies. (Sanfey and Hastie, 2000)

***Application to teaching:*** Age and experience have equipped seniors to be more able to see the “big” picture and not get lost in the details. When introducing a new concept, put it into perspective. How does it make sense. Be careful to not complicate the technical concepts and expect seniors to accept the new concepts immediately. Allow them time to verify new information by experience. Seniors have a highly developed model of judgment and



decision making strategies which they are not apt to change. Their internal model has been refined through their years of living. They are familiar with it and it has worked for them. They will process any new information within this existing framework. Therefore, link new learning to old learning by using comparison and contrast. Allow seniors to verify new by applying it. For example, when teaching how to use turn shape to control speed, briefly explain the concept, then immediately experiment making turns with different shapes. Point out their own typical turn shape and how it compares to the

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rounder turn. Continue making turns playing with and exploring the pros/cons, advantages/disadvantages of the various turn shapes. Link the new with the old and confirm through experiential learning, i.e. skiing/riding.

It is critically important when teaching seniors for them to take ownership. At the beginning, discuss the reasons that the seniors are there, what they are doing and what would they like to do. At the end, recap. Did you meet their goals? Discuss future plans. Seniors are used to taking control of their growth and future. It's their time.



### Affective Domain - Emotional

- Affective information is more important for seniors.
- Research has shown that seniors have improved efficiency and quality of decision making with affective markers. (Stern and Carstensen, 2000)
- “Seniors learn better from affective cues than the other age groups.” (Stern and Carstensen, 2000)
- “Aging may increase reliance on heuristics and affect in judgement and decision making.” (Stern and Carstensen, 2000)

- “An individual experiences more apprehension the less confidence he has in his ability to perform successfully.” (Slanger, 200?)

**Application to teaching:** Seniors learn best with affective markers; i.e. when the new learning also is marked and accompanied by emotional content. Unfortunately, fear can often be present in the senior. As Slanger notes, “An individual experiences more apprehension the less confidence he has in his ability to perform successfully.” Needless to say, fear does not promote learning. The best way to navigate fear is to work with the individual and allow them to choose a small step towards their goal that they believe they can be successful in taking. What is the limit of their confidence how can they stretch it just a very little bit. For example, could they even just approach the new terrain and look at it? The physical and the affective are very much connected. In seniors, with aging bodies, but still with young minds, it is sometimes difficult for both the instructor and the clients to discern exactly how much they can do.



A healthy, partnership is extremely important to facilitate a positive experience with senior clients. Trust is important and first develops by the coach trusting the client. Trust develops from experience together. You cannot expect a senior to trust just because you are the ‘instructor’. We all should try to be honest and speak from their heart. Trust develops from listening and actually hearing. Trust is appreciating and honestly valuing each other.

Positive affective cues can always help - including off-the-wall comparisons that make you laugh. Make connections that have positive emotionally charged content. Keep the atmosphere positive and aim for success in the process. Cheer each other on!

Have fun! Seniors are skiing/riding because they enjoy it. They are skiing/riding with you because they want to. So go for it, enjoy those moments with them. Plan on doing it again!

### Physical Domain

- Possible Osteopenia (low bone mass)

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- Possible reduced muscle mass
- Possible decreased cardiovascular reserve
- Possible increased sensitivity to the cold
- Possible increased sensitivity to the sun
- Possible neurological manifestation of aging on coordination and balance
- Possible vision impairment
- Possible hearing loss
- Possible physical limitations due to previous injuries
- **Possibly none of the above**
- However, a very wide range of physical strength and ability

**Application to teaching:** Seniors probably vary more than the average population when it comes to the physical domain. However, seniors who are skiing/riding are a self-selected group and are a bit above average in their physical abilities. With seniors, spend time at the beginning learning about any physical limitation that they may have and take these into consideration. Be careful with the **lesson pacing** and **terrain selection**, focusing appropriate



**terrain tactics** and adapting **techniques** that will help the group be successful and improve.

As with all people, be sure to advise seniors of the **mountain environment**; i.e. the exposure to the sun, the wind, the cold and the need from skin protection, eye protection and proper clothing. Seniors usually do better in goggles and sunglasses that are not as dark. Older eyes do not usually adjust as rapidly to changing light and often require more light to see clearly. Toe warmers and hand warmers are usually very appreciated as circulation may not be what it used to be. Some of the “new”, high tech clothing is wonderful.

**Pacing** is very important. You *might* need to stop more frequently and take a bit longer breaks to enjoy the scenery and find the restrooms. Remind your people to breathe. It is amazing how many people ski/ride for long distances without breathing.

*Important Note: Please be especially aware of heart attack symptoms. If a person is sweating and pale, get help immediately. Be especially aware of this in people that are over weight and not used to physical exercise.*

**Terrain selection** is critical. It's important to consider snow conditions when selecting terrain. Sometimes a blue run can be a green run and sometimes a green run can be a blue run. Application of appropriate **terrain tactics** is also crucial. It is important to understand how to choose what line to ski, exactly where to put your feet on the snow to use the terrain efficiently and effectively. For seniors, it's important to be able to read the snow and decide exactly where to turn. This is especially true when on terrain that is a bit more difficult for them. Many times, I've taken my senior clients down through some bumps to have them exclaim that it was so easy - only because I had them stay in my tracks, making nice round turns on the flatter places, staying out of the troughs, smoothing out the line while I set the speed, keeping it constant and moderate.

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In selecting terrain, also consider what other types of skiers/riders will be on that terrain and how crowded it will be. An area crowded with young snow boarders or ski racers will not promote a good experience. An area that is noisy will be distracting and may make it harder for those with hearing loss. On a poor visibility day, it is especially important to choose runs that are either below the fog or that at least have many trees or other markers for orientation. Poll your clients as to their preferred terrain and ask why. I cannot overemphasize the importance of terrain selection and tactical use of that terrain for your senior clients.

### **Whole Person → Spirit - Soul - Body**

In their quest to fully understand human nature, traditionally snow sports instructors leaned on the CAP Model (Cognitive-Affective-Physical Domains) (discussed above) for understanding. The CAP Model was formalized by the cognitive / affective theorists Walter Mischel and Uichi Shoda. The model also grew from knowledge drawn from the work of developmental psychologists such as Jean Piaget and Ulric Neisser and others. Though the CAP model brings us closer to understanding the complexity of human nature, it misses by failing to include ‘Will’ and ‘Spirit’, dimensions that are thought to be the Soul of Man, being composed of Mind, Affect/Emotions and Will, with Will serving as the ‘decider’ in us that helps determine determines what we will do, think and feel, or how we choose to react to a situation. In that sense, human beings are wired to make their own decisions, a capacity we as teachers and coaches need to both respect and be able to call upon when assisting guests in the learning process.

### **Spiritual Domain**

While there are many diverse spiritual beliefs, these beliefs play a more important role in the life styles and decisions that seniors make. Suffice it to say, that being sensitive and accommodating of the spiritual domain is very very important with the senior skier.

In summary, view students as human systems that are composed of more than muscles and bones, cognition and knowledge. For a coach or teacher to touch a student’s spirit, the relationship must transcend interacting on the level of name, rank and serial number knowing each other. Without touching the spiritual self in each other, interaction will mostly remain on a transactional level.

Touching and respecting the spiritual self in each other is worth the time and effort, as is taking time to reflect on the beauty and uniqueness of snow-covered mountains that can lift us to new and higher levels of consciousness and spirituality.

**Application to teaching:** Take time to smell the roses; i.e. take time to stop, look out over the snow covered mountain scene, watch the chipmunk scurry across the trail, investigate the small tracks coming out of the trees, marvel at the snow crystals on the fence, inhale the magic becoming rejuvenated and refreshed. Praying and God are acceptable!



## PART II EQUIPMENT RECOMMENDATIONS

- Ted Pitcher

### SECTION 1. SKIS

Many older skiers remember the days of the “210 for men”. We are now on much shorter skis that perform far better than those old long boards.

1. The current all mountain skis are amazing. Length should be no longer than 175 cm for most men and 150/160 cm for women.
2. For softer snow, try a mid fat, 80/85 mm under foot with a 15/16 meter radius and a little early tip rise/rocker.
3. Try an all mountain carver in a softer flex with a 13/15 meter radius if you ski hard snow or stay on piste.
4. Experiment with softer flex and softer torsion for easy carve, less hook up and loading.
5. Try before you buy! Demo skis to be sure the flex and torsion match your strength, weight and speed.
6. Tune is critical for 12-16 meter ski. Keep ‘em tuned up!
7. Many seniors are being sold very wide rockered skis by some ski shops. If your senior skis only skis off piste/powder occasionally, this is not a good choice of equipment. Wide skis (90 mm or wider at the waist) will put additional loads on the knees when edged on groomed terrain. Not good for seniors!

### SECTION 2. BOOTS

Many older expert/advanced skiers still ski stiffer boots. Stiff boots kill knees! Shorter carving skis don’t require stiff boots to perform.

1. Boots can be softened by cutting them or removing hinge locking rivets or screws. Any good shop can do this. You don’t necessarily need to buy new boots. Boot flex is a very individual thing. In general, as you get older, you will ski better in a slightly softer flex. Don’t be afraid to experiment!
2. Generally older skiers need more upright cuff and lower ramp angle to help maintain a taller stacked stance.
3. Lateral canting needs are critical with deeper side cut skis. Be sure your boots are set up at 0% neutral stance. If you are over canted, or under canted, the gear will be very hard on your knees. Make friends with your boot fitter!
4. The right ski and boot set up for you can add years to your enjoyment of skiing!





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## PART III-A SENIOR TECHNICAL MODEL - SKIING

- Ted Pitcher

The technical elements, skills and turn mechanics discussed here are not specific just to senior skiers. Many of these technical elements are visible in men's and women's World Cup Skiing. Racers use these elements because they need to be strong to deal with the forces in the turn. Older skiers can use these technical elements because they keep us stacked, balanced and stronger!



1. Tall, stacked, athletic stance, strength in length, feet on the foot beds, ski/snow contact, ankles, knees and hips moderately flexed. A balanced, mobile stance, is absolutely critical in deep side cut skis. Skiers move within this balanced stance. Spend lots of time developing this mobile balance. Most balance drills can be modified to work with seniors.
2. Track both skis, constant hip width stance... Many older skiers will let the inside leg “A” frame or bounce around. Distribute pressure to both feet, always, skiing very two-footed. However, always keeping the outside ski dominant, even at the top of the turn by beginning to move a bit more pressure to the new outside foot immediately after the apex to where you will have even foot to foot weight distribution near edge change.
3. Replace excessive active rotary with forward diagonal (foreagonal) move to maintain balance as you enter the turn, engaging the new edges as skis are steered in a round arc into the turn - moving with and balanced/centered over the skis always.
4. It is important to protect the knees by keeping the hips lined up with the feet, not twisted. This allows the knees to move as the hinge joint that they are. (Note: Avoid artificially creating a ‘countered look’ by twisting the body relative to the feet. A countered appearance will ‘*happen*’ as the upper body (waist up) moves forward and diagonal into the new turn while the feet and hips are still finishing the previous turn.)
5. Edging the skis at the bottom of the turn is done via tipping the shin bones, keeping your legs functional (lined up feet/hips), while flexing more. Edging the skis at the top of the turn is done via moving forward and diagonal into the new turn, ‘separating from your skis’. This will continually utilize the edges and the radius of the skis. Railroad track drills on easy terrain will begin to develop these contemporary edging skills. This is always with a balanced, stacked alignment of the bones, hips through the feet.
6. Work on “scarving”, a slightly skidded, soft, round, steered, carve to control speed with less loading of joints and muscles. Less work than a harder carve.
7. Pole plant changes - Many older skiers have habitual hard blocking pole plants. Work on pole plant in the glide phase to facilitate and direct crossover/diagonal move downhill, rather than the “up and over” move associated with a block pole plant. This keeps rhythm and flow down the hill arc to arc and is much less work for the older skier.
8. Low impact with much less need to un-weight using contemporary technique on groomed terrain with deeper side cut skis. Skiers still need to actively flex and extend while they guide and edge skis turn to turn.
9. Balancing and **blending the skills** smoothly is a goal. Continual **smooth and flowing** movement with no static positions to hold (no parking and riding) also makes skiing much easier as well as less tiring. It’s a dance.

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**PART III-B SENIOR TECHNICAL MODEL - SNOWBOARDING**

- RC Sawyer

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### **PART IV CONDITIONING FOR OLDER SENIORS**

- Ted Pitcher

1. Check with your doctor before starting any physical training.
2. Conditioning must be low impact and should be fun.
3. Consulting a physical trainer may be a good idea.
4. Don't over train! Alternate training days with active rest, walking, stretching, easy bike, etc.
5. Other sports you enjoy are good for general conditioning.
6. Spinning on a bike is great for general and aerobic fitness.
7. Weight training is still one of the best types of training for any skier.
8. Start with very light weights or just body weight and gradually work up.
9. Weight training with low weight, high reps is best training for older skiers. (Rehab facilities have 90 year olds on weight programs!)
10. Follow the advice of your physician regarding plyometric exercises (box jumps etc.)  
The classic skier exercises are:  
½ squats (not too low)  
Drive ups/step ups  
Lateral or forward lunges (not too large)  
Crunches or sit ups or planks (for core strength)
11. Start easy and gradually build up.
12. Any kind of training is always more fun and easier with a training partner.
13. Don't forget easy stretching after exercise to maintain range of motion.

Dry land training and physical activity are the keys to keep you skiing/riding at a high level. Keep active! Work out! Please see the Addendum for more detailed recommendations for developing good training habits!



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## PART V COACHING MODEL FOR SENIORS

- Ted Pitcher

Our A.T.S. 'Teaching' model can easily be adapted to fit the needs of the senior population. Here are some specific ideas you can incorporate in the teaching model as it applies to seniors.

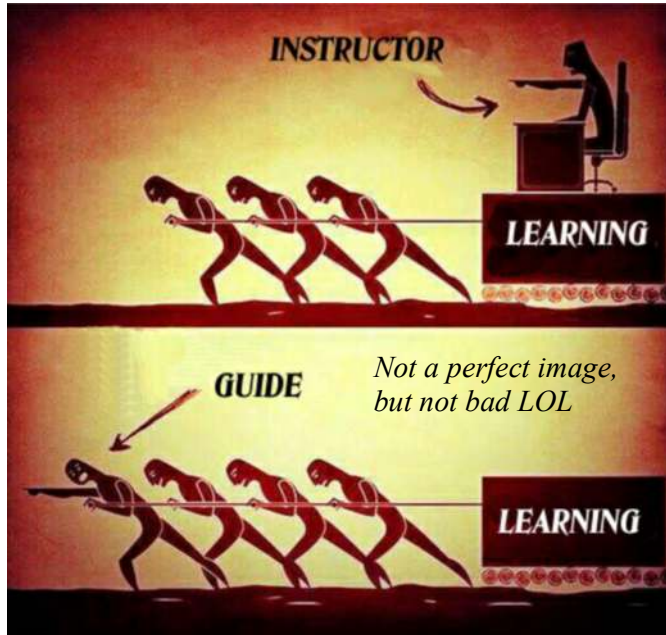
1. Introduction - Many seniors have led very interesting lives with long skiing/riding histories. Take a couple of easy warm up runs. Stop a few times each run. Each time, get a skier's history. Seniors have a life long passion for the sport. This kind of exchange establishes a great group dynamic and develops community.
2. Ask about injuries, aches and pains, vision, endurance, etc. This will help you establish pace and address safety issues. Ask about general health and cardiovascular health. Be aware that altitude can have an effect on heart rate and levels of exertion.
3. Ask about strengths - What keeps them skiing/riding? It's amazing some people have skied/rode 30 years without giving this much thought. You will get some interesting answers.
4. Goal setting - You might ask about what is "bugging" them about their skiing/riding, what they want from the coach. They might just want to ski/ride... If they want to work on their skiing or riding, then first find out from them what they are doing and what they think they should do. Do not simply rely on your observation skills, ask them and listen carefully. This will enable you to start where they are - to really partner with them in their experience. Include this 'internal' report!
5. Suggest new techniques, driven by new equipment, can be physically less demanding and can add years to their skiing/riding. Ask if they have considered or might want to try... don't 'tell'!
6. Easy stretch after warm up. Never stretch cold muscles!
7. With high speed lifts, it's easy to set a leisurely pace with lots of stops. Keep asking about pace and terrain. Watch for a fall off in performance and other signs of fatigue. Proper pace is very important for seniors. However, some are extremely, extremely fit!
8. Be aware. The group dynamic can be really strong with seniors. Tired skiers may not admit fatigue if the majority wants to continue to ski/ride, or ski/ride more challenging terrain. Read your seniors, talk to them, empower them to make their own decisions, but you may need to make that call yourself.
9. Be aware in mixed groups. On rare occasions, you may find someone in the group with old fashioned and sexist ideas about skiing/riding with women or someone who many use profanity. As a coach, it's your job to keep the group dynamic strong. Take charge. Speak to the person on the chairlift, privately, so this kind of thing won't happen.
10. Many seniors have used the new equipment using old techniques and were not happy with the equipment. To motivate seniors to try the new gear and change their skiing/riding, ask these questions:
  - You're skiing/riding 3 hours a day. How would you like to ski/ride 6 hours?
  - How many ibuprofen's do you take at the end of the day? Do you want less pain and soreness?
  - How would you like to be able to keep skiing/riding for 10-15 more years?
11. These kind of questions will really motivate seniors who are passionate about skiing/riding to change technique and equipment. Modern ski design and efficient ski technique can help seniors ski longer.
12. Advise your seniors changing movement patterns ingrained for 30 years will take some time. Do not overload the technical. Stick with one or two 'new' elements per session.
13. Share your own personal passion about skiing/riding with your group. The challenge, excitement, camaraderie, social interaction, mountain environment and pure joy make it more than just a sport. For most long time senior skiers/riders, skiing/riding is a way of life.

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## PART VI LEARNING MODEL

- Cookie Hale, PJ Jones

As we have previously noted, seniors will come to on-snow events with varying expectations. For all it's a time to celebrate life, the mountains, the weather and the joy of being able to still gather together. For some, that **IS the only focus!** Others may actively **desire to learn.** They may desire to make skiing/riding easier, to be able to conquer more terrain, and even to maintain or reclaim the thrill of the speed and challenge of the mountain. Even if learning is not what motivates them to participate, learning will always occur.



As humans, we have that innate primal instinct to learn and explore. Learning always happens. Regardless of our age, all human beings are learners. It's in our DNA. It's our nature. For those who believe in God, it's the way God made us. **We are learners.**

As coaches, we also desire to learn and to help others learn. It certainly helps if we understand better how we all learn, especially how we acquire motor skills! What enhances learning? How do we learn?

Certainly, a sense of positive community promotes learning. Listening to each other, with sincerity, promotes community and is foundational for helping others learn.

What we call ourselves, how we label ourselves, will effect how we perceive our role and how we act it out.

**Who are you? A teacher? An instructor? Or**

**a coach or a guide? What is your role?**

Do we 'tell' others what to do based on what we see and think? Or do we learn what others think by engaging them and listening and doing things with them? **Can anyone really understand and talk about something without first doing it, or at least trying to do it?** These are all good questions!

Science has shown us that in acquiring skills such as skiing or riding, detailed cognitive instructions about what to do with our bodies can interfere with and delay learning. Cognitive processing keeps us from entering a state of conscious where we actually acquire motor skills. So, what is our role? What do we do if we want to facilitate learning?

**To successfully play the role of the 'guide', an experienced 'instructor' needs to consciously lay aside some of their previous expertise of 'teaching' from the basis of 'Movement Analysis', 'Diagnosis', with the following 'Prescription' of drills, exercises, and 'advice of what to do - in excruciating (and sometimes boring...) detail...(at times with arrogance).** Becoming a senior guide may require some re-tooling what you have *always* done.

**We need to become humble**, approaching others with the sincere attitude that they know something we don't, something that could help all of us. We need to be curious and want to learn what that is. What do they think? What are they doing? **What is their 'model', their 'sense making'?** Then we need to join where they are and ask, "Have you tried/thought about/wanted to?", "Do you think, would you like to....?" Questions are not 'checking for understanding' or searching for the 'right/correct' answer... Our questions should result from our curiosity to learn what others think. **We LISTEN!** We learn from our guests! Our guests should talk as much as or more than we do!

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The ratio of ‘coach talk’ to ‘learner talk’ is critical. The learners should be talking at least as much time as the coach, if not more. 50:50, or more time for the learner. We all process and learn while we talk! While making sense and understanding are great, they still should be considered background information primarily for allowing or motivating movement. When we start to ski or ride, the learner should focus on what the skis or board are doing on the snow, where they are going and how fast → not some internal body focus. The learner can check in with their body, but the main focus should be external.

The foundational concept for working with seniors is the idea of “together”, **REALLY TOGETHER**. To develop ownership of this mindset, it helps to understand more of the science that has come from neuroscientists and psychologists in the recent years of how people learn and acquire motor skills.

If we are being asked to change the way we approach our role of ‘instructor’, **we should require that valid reasons for any such re-definition and re-direction be presented and understood**. You can never expect seniors to simply believe and do what they are told just because you told them! Same goes for us as experienced instructors. As Rusty Crook has often said, we seniors have excellent and very exercised BS detectors. When given new information or told to try or do something, we may smile and nod, but ignore the advice - and proceed to do what we “know”, from “our experience”, works. With this intent to refine, or even re-define, the role of the guide, there are some newer foundational concepts that will help us want to change our approach.

Following is a list of the fundamental concepts. Understanding of these concepts will change the way you coach. Many are newer and only beginning to circulate in the snowsports industry around the world. If any are not familiar to you, please study them in more detail in the addendum to this handbook. (Note: If you are curious about how to deal with fear, understanding our Two Approach Systems is critical.)

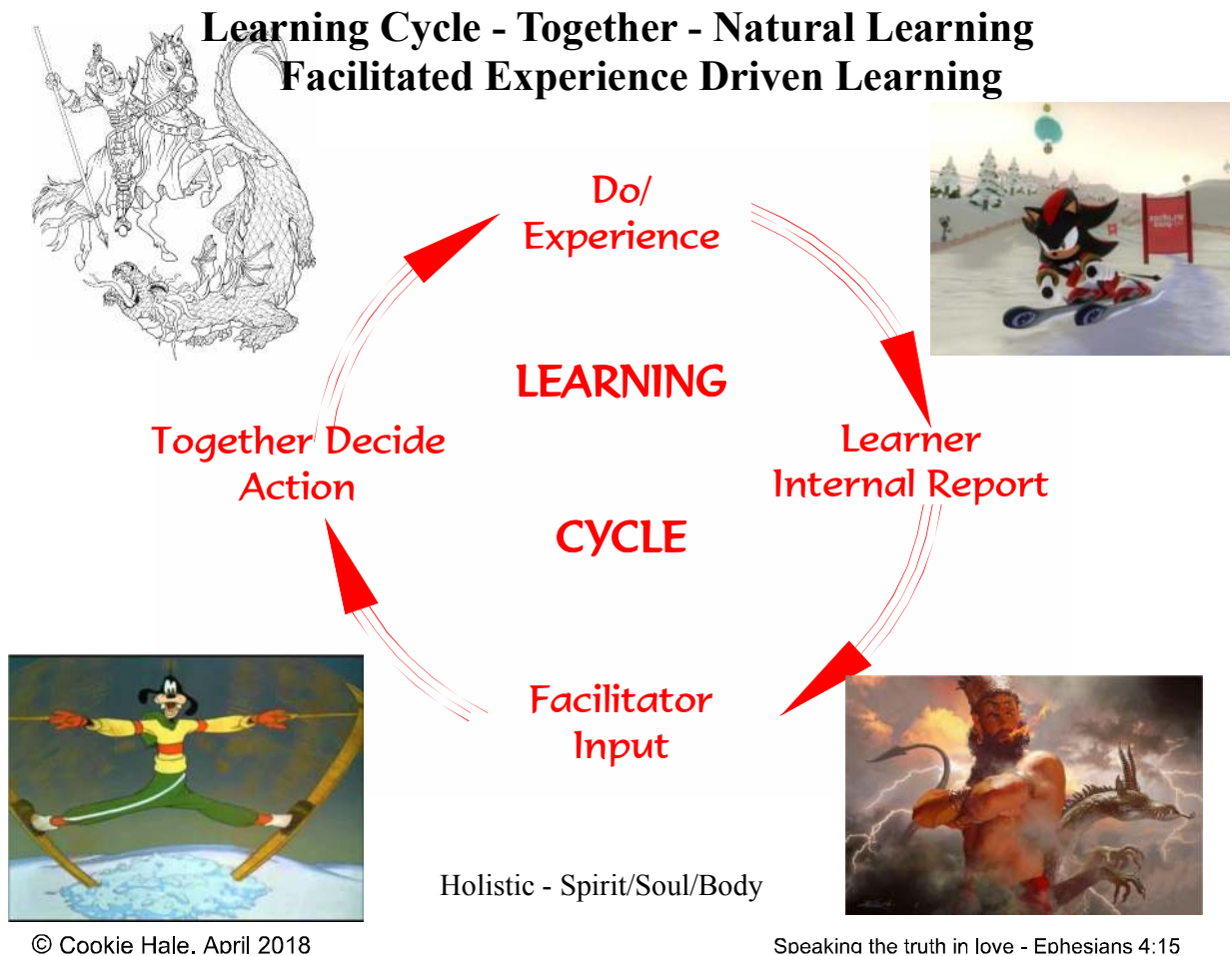
### Background Concepts for Understanding Learning

Big Five - Together  
Frame Problem  
Anoetic Consciousness  
External Focus  
Mirror Neurons  
Neuroplasticity/Neurogenesis/Epigenetics  
Dopamine  
Chaos/Order  
Two Approach Systems



## THE LEARNING CYCLE

Here is a simple learning cycle. In the simplest of terms, the basic concept of the learning model starts with **doing and then listening** to each other. After social introductions, we listen to each other as we talk about our skiing and riding experiences. We honor and respect and value each other and each individual's 'sense making'. We 'do' → we go skiing, riding and we talk. As we talk, we develop awareness of what we are experiencing, how we are '**making sense**' - continuing to share our "internal reports". The guide listens and further wants to understand, asking for clarification, then perhaps making suggestions. It's similar to kids playing together. Together we decide what to do next and go do it! We focus on the people, on each other, as we ski and ride. We learn, we grow, and we have fun, as we "do"! **We play! We do it together!**



# Senior Specialist Handbook - Skiing/Riding with Seniors

## PART VII S.A.G. → THE ANTITHESIS TO TMI

- Horst Abraham 12/2019

Since its inception, our profession has evolved through many stages of methodological development. From instructors serving as role models (do as I do), to the military adding strict progressions to every development stage (can you imagine kick turns at beginner levels?!), to using institutionalized and objectified performance measures to define success (Remember: Final Forms), it has been a wild, exciting and often confusing ride to this point.

Most recent development focused on information about learning theory, sport psychology and teaching methodology, a laudable extension of our profession's knowledge base. What has shown to be largely missing is helping instructors understand the new material to where it is usable knowledge.

In review of the historical journey it could be said that what we may consider the most simplistic methodology (do as I do) may actually have been the most effective teaching method ever used. After all, what is more effective in learning something new than to have a good role model and the time to experiment and assimilate, with no needless cognitive clutter or terminology, free to learn from successes and mistakes. Our profession's growing handicap is that in its desire to add information to our playbook, it fails to cut and edit old material, and help translate theory into practice. With every meaningful change some things begin and some things end. When not satisfying both ends of the change chain, TMI results.

On the mechanical side of the equation a small group of 'revolutionaries' reduced the complexity of ski mechanics in the 1970s to three basic Skills: TEP

- **TURNING one or both skis in the intended direction of travel. (I find 'rotary' an awkward term = adjective)**
- **EDGING one or both skis on corresponding or opposing edges to effect direction change and/or speed control.**
- **PRESSURE CONTROL on one or both skis along the ski's length as needed.**



This simple trilogy of mechanical understanding of the ski's interaction with the snow defines the result of all bio-mechanical activities a skier performs. 'Basic Skills' became the mechanical framework the American Ski Teaching System, a framework that allowed for actionable language and simple to apply methodology.

What is the equivalent methodological simplicity that allows instructors to develop a working understanding of the newest training material when even old simplicity has been made more complex? Another group of 'radical' members of our organization devised SAG to be the methodological equivalent to the Basic Skills. Here is the SAG model.

ENTER: SAG: 'Simplify', 'Amplify', 'Gamify'.

These three concepts, mindfully used, help instructors bring language, principles, and practices to impactful actionable levels. Let us review SAG's meaning and magic:

**SIMPLIFY = Simplify thought, language, action, sense making.**

We learn from our experiences, language we associate with our experiences serving as a memory anchor. It is noteworthy that most effective language is that which is generated by the student, drawing directly from her/his inferences about the experience. Using pre-ordained language, in contrast, tends to be abstract to the learner and distances the learner from 'experiencing the experience'. The EDL mantra therefore is = EXPERIENCE FIRST - THEN LANGUAGE and CUEING.



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To avoid conceptual constipation, language needs to be simple and actionable. Cues fulfill that purpose. Here is what we mean by 'CUEING': 'Cues' are sounds with which a learner captures the nature and intensity of a movement associated with a certain outcome. Best CUES are one syllable words/sound which, when emitted at the right time and intensity, trigger movement the learner identified to be causal to the movements delivering the desired results. CUES are used intentionally when wishing to replicate previously observed or practiced maneuvers.

Effective cues are developed over time after experimenting with different sounds at different intensity levels before selecting one that is deemed to be most effective to a certain application. Cues, once meaningfully developed, can be stored, transferred and built upon, thus making even a small inventory of CUES serve a skier throughout her/his skiing development. CUES are best developed while mentally and physically rehearsing the movements.

My first encounter of cueing I experienced at the Bundessportheim St., Christof/Arlberg in Austria where I was taking my Full Cert. Exam at the time. Professor Kruckenhauser (then the leader of the ski instructor institute) was working with a group of school children on the infamous Schulhang (Demo-Hill) watching them evolve from wedge turns to open track Christies. Rather than giving technical instructions to the kids, Kruckenhauser was intently watching the kids actions, then asking one of the kids that spontaneously had developed a wide track Christie how he had accomplished that. The student, without hesitating replied: "You know, SCHWUPPS!"



While fellow students had labored to link turns more swiftly, soon all were chanting SCHWUPPS and doing open track christies. What they observed in their fellow student along with the sound, intensity and playful manner in which the word was used, they all SCHWUPPSED.

CUEING can be developed statically in mental rehearsal or dynamically, physically emulating body movements while standing in place or moving. Actively involving the learner in search for actionable learning is advised, yet it should ideally fall short of prescribing movements.

Another simplification can be applied in form of starting with desired outcome rather than building capacity through incremental steps. Try the WHOLE / part method first, using detailed assistance only as needed. For those of us being MA smitten, this suggestion will not sit well, as we are junkies of fragmentation and over-analysis.

One of the simplest simplifications is offered to us by Arizona University Professor Dr. Gaby Wulf who is the co-author of 'Optimal Learning'. Her summary of teaching power comes with three pieces of advice:

1. **Raise Expectations** incrementally and at the rate that supports optimal learning. Start low at achievable levels, then escalate.
2. **Externalize Focus** as much as possible – away from the center of the students' CM or fully to the outside the learner rather than focusing on biomechanical detail that is more internal. (From feet to skis, tracks, obstacle, bump, etc.)
3. **Autonomy** = offer the student as much freedom as possible as it relates to:
4. what to do! (B) How to do it! (C) When to do it! (D) Where to do it! (E) With whom to do it! – Select options as useful and permissible. Adjust degree of autonomy according to the student's capacity to handle autonomy.

### **AMPLIFY:**

Learning theory suggests that to make a point we may have to **amplify or exaggerate** what we wish to show or tell to make a point. This applies both to what we say and what we do. Ski movements and

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instructional advice is often given in ways too subtle or it come packaged uth too much attention causing the student to lose the core message. Large and exaggerated movements and clear, focused messages reduced to their essence will best bridge possible understanding gaps. We seem to have forgotten the importance of demonstrating everything we ask students to emulate at least 3-4 times, both facing and away from the students. Think Marcel Marceau – the French Mime and aim to demonstrate in ways that do not require language to make a message clear.

Add to the above also the concept of **thinking and feeling out-loud**, student and instructor revealing their thoughts, feelings, and sentiments to each other in audible ways. ‘Loud’ not only serves the student as a motivational and directional aid, but it also informs each other about what is happening, and how intent and results either conform or differ. Most of what is important in the learning process is invisible to outsiders. Helping each other by empathizing, diagnosing, planning, and implementing makes for the learning process becoming collaborative and transparent.

Talking about amplifying: Have you used nicknames to entice students to do things that stretch them? Nicknames can become temporary labels that identify the next desirable performance level, packaging it a desired outcome into the form of a nickname. Using names like BOUNCY, SMOOTH, RHYTHM, SNAKE have been very helpful to encourage certain performance characteristics in students. Doing so playfully (not in a derogatory way) energizes and directs without directing.

- What in your teaching makes the teaching/learning process audible?
- What onomatopoeic methodology do you use in your teaching? (Specify)
- Are you thinking and feeling out-loud?
- What nickname are you given often by your students?

Beyond the above, being explicit, loud, and energetic (as appropriate in the moment), also helps an instructor generate and manage group energy. Managing energy at appropriately oscillating levels is one of the most important functions of an instructor as energy mobilizes or controls behavior in powerful ways.

### **GAMIFY:**

Neuro- and behavioral science suggests that while we do learn from the classic cognitive process involving reflection (as suggested in the Kolb learning model), playful learning reduces performance anxiety, mobilizes inherent anoetic skills (capabilities the student brings with herself), allows the learner to externalize focus (focus on points as peripheral and external to the learner as possible – the more a learner externalizes her focus (what she pays attention to), the less complicated the learner perceives the task at hand. Combining external focus with CUEING leads to a learning process that is most effective and most fun, the learner fully owning the process, learning and the language – HER language!

Our past overemphasis of ‘full cognitive understanding’ and ‘conscious competence’ in the learning process deflected us from natural learning practices using music, rhythm, metaphor, mimmickery and sound cueing as accelerating means to bring about



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learning. Using music and rhythm works with adults as well as with children, making learning simpler and more enjoyable.

Think for a moment how changing the mindset from ‘drill’ to ‘play’, or from ‘perform’ to ‘experiment’ will impact thoughts and feelings about what is to come. Framing activities as ‘play’ changes not only the action we will take towards learning, but it also changes the very brain and body chemistry, resulting in dilating pupils (relaxation), changing blood pressure and pulse beat from one expressing performance anxiety to one seeing an opportunity to experiment and explore. Such a frame change also floods our body with the feel-good substance serotonin, creating a much higher and more beneficial readiness and engagement level than operating with a ‘drill’ mindset.

Children instructors have been great role models for gamifying learning. We just need to convince ourselves that playful learning also works for adults, and engaging ourselves to devise playful ways to assist learning without prescribing it = inviting aneotic learning capabilities.

- Generate 5 ways to ‘gamify’ moving from wedge turning to wedge christies!
- Invent several gamifying ways to enhance stability in students working in first descents.
- Describe a process by which you bring CUEING into your teaching process.
- Describe practices you used in the past with which you were pushing ‘drills’ over ‘play’.  
Describe the playful alternatives.

**SUMMARY:** While the above is only a short summary of SAG, I hope it will inspire you to investigate ways to expand and embellish practices and make learning more fun, make it simpler and more effective in turn.

*Have fun skiing and riding!*

*Horst (a fellow addict to skiing)*



## Addendum

- 1 - HIGH END TACTICS FOR MODERATE STEEPS AND BUMPS**
- 2 - LEARNING CONCEPTS - PSYCHOLOGY AND NEUROSCIENCE**
- 3 - FURTHER UNDERSTANDING OF SOME TECHNICAL BASICS**
- 4 - CREATING A SENIOR PROGRAM AT YOUR RESORT**
- 5 - FURTHER DEVELOPING YOUR PHYSICAL CONDITIONING**

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## 1 - HIGH END TACTICS FOR MODERATE STEEPS AND BUMPS

- Ted Pitcher

Many older skiers just don't enjoy skiing bumps and steeps any more. However, there are still some strong Senior skiers that enjoy the challenge. They are capable of skiing steeps and bumps. The common thread running through moving being 'early' to the new ski and going where you want to go - in balance and control!\* In addition, the tactics and line described below will help seniors ski this terrain with more control and less physical effort.



1. Coach a round line on **steeps**, no "hits" or hard edge sets. Use the same contemporary technique we've been working on. Author and coach Warren Witherell advises, "pick the slow line and ski fast on it." This round line will help control speed with fewer physical demands. Even turn uphill to adequately slow down before starting new turn.
2. Coach the "old man's line" in small to moderate **bumps**. This is a very round line that goes up and over the shoulder of the bump. Stay out of the troughs. The round line controls speed with less impact and less need to flex deeply to absorb the bump.
3. Strong senior skiers may still want to ski **off piste/powder**. For these folk, moderated to easy terrain selection is critical. The appropriate powder ski is important. Good soft snow and less new snow depth means much less effort and fatigue. Pick your spots with your senior skiers!

When skiing moderate bumps, steeps or powder with strong seniors, always watch for a drop off in performance of your skiers. Call for a break or a return to blue groomers at the first signs of fatigue.

### Some Things to Watch out for at the High End

Some technical elements of contemporary skiing may not be helpful to seniors.

1. Extremely high edge angles at the turn apex can create "snap"/rebound/tremendous energy from the ski, requiring great strength and balance. This may be too athletic for many seniors.
2. Retraction moves, very evident in modern technique can be hard on seniors with knee issues or balance and strength issues.
3. Flexible boots that are canted correctly are a must for seniors on deeper ski cut skis. A good boot fitter can soften and make canting adjustments to senior skier's current boots. Evaluate your skiers!

As we clinic and play with these ideas, you will see this is really about contemporary skiing as applied to intermediate and advanced seniors.

It's as much about addressing senior's needs as it is about changing technique.

We are just adjusting the skiing model and teaching model to fit the cognitive, affective and physical needs of our seniors. That's what the teaching partnership is all about.

With the right coaching, technique, equipment, conditioning, and a passion for skiing, we can keep seniors sliding for a long, long time!

\* See [Appendix 3 - Further Understanding of Some Technical Basics](#) for more information.

**Have Fun!**

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## 2 - LEARNING CONCEPTS - PSYCHOLOGY AND NEUROSCIENCE

**Big Five:** In the early 1990's (and even before), several sets of independent researchers discovered and defined the five broad personality traits based on empirical, data-driven research.

The five dimensions are considered to be underlying traits that make up a person's personality. These are not some theory only, or a nice model, they were derived from much empirical research. What does understanding the Big Five do for helping people learn to ski? The Big Five model shows us that we are all different. We are all different mixes of Agreeableness, Conscientiousness, Extraversion, and Neuroticism and Openness to Experience. People even tend to vote their personalities! Understanding how we differ, in what dimensions we differ, helps us to be more considerate and accepting of others. We need each other to completely live in this world.



We are not going to go into details of the Big Five here. You can go online and take various personality inventories. The best one is Dr. Jordan B. Peterson's at <https://www.understandmyself.com/>. However, here is a brief introduction. Each of the traits is made up of two aspects:

- Agreeableness: Compassion and Politeness
- Conscientiousness: Industriousness and Orderliness
- Extraversion: Enthusiasm and Assertiveness
- Neuroticism: Withdrawal and Volatility
- Openness to Experience: Openness and Intellect  
*(Note: Neuroticism means sensitivity to negative emotion. It's not 'bad'...)*



**Frame Problem/Theory:** From the search to develop artificial intelligence (AI) we learned that the Newtonian view of the world is not how humans operate. We had thought that we 'see' objects, then decide what to do with them. When AI tried to first take this route, they quickly discovered that 'seeing' was impossible. There is simply too much, with multiple levels of resolution, to 'see'. They discovered that there had to be some filter, to filter out all irrelevant information. The filter became the key. This filter still is the key when working with others!

Where does that filter come from? Researchers then discovered that in order to have a filter, there needed to be an aim, a target, a desired direction or outcome. Humans have a similar operating system built into us. We have some motivations that arise from a very primitive structure in our brain, the hypothalamus. We are hungry, thirsty, cold, tired, desire sex, and also are curious and want to explore and learn\*. We also dream... Go where? Learn what? Yes, we are naturally built with an internal desire to explore and learn. We naturally will have some aim. We also imagine. We dream. As we seek to fulfill that aim, we will filter out most of the world as irrelevant and then categorize the rest with valence, with value - as either being a hindrance or obstacle, or as being a tool or helpful to gaining our aim. In the very late 1990's, Christopher Chabris and Daniel Simons performed a series of experiments which showed how blind we really are to the world around us.

The Frame Theory moves us from the Newtonian view of the world as a world of objects with no valence, to a narrative (ancient/mythical/Christian) and somewhat Darwinian view of the world, where the world is made up of objects that have value, that have valence. We act out a belief that we live in a story, a



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subjective story with values, not just in an objective world of objects with no valence.

**How does this help with guiding and coaching others?** In order to work together, we need to really understand and share a frame of relevance, a target, an aim, a goal. Such a frame will help develop awareness of the environment and our bodies in order to learn and grow.

**How do you develop that shared vision or frame?** You ask, and you **listen**, with humility and sincere curiosity that springs from a desire to really know what other people are thinking and why they are thinking that - to understand their sense making. This is what has been called the 'internal report'. The guide **listens to the internal report of others**, who are "heroes"...

The Frame Theory should help change the experienced instructor from the path of MA observations with "prescriptive directions" to the path of fellow explorer walking with others in a joint venture, joining in their frame. A great example is this story: I had a client, a younger lady in her mid-thirties, very physically fit. She had skied only a couple of times before. I asked her to show me, to ski. I noted that whenever her speed picked up, she would go in the backseat. Now, this is a common reaction that we often see. MA would say that it's a fear or balance issue and then MA would start to prescribe some exercises or 'talk' to 'correct' that backseat response.

I said to the lady, "I see that you don't want to go too fast. That's great! So what are you doing to control your speed?" *[Side note, most people are primarily interested in two things when they ski or ride, 1) where they are going and 2) how fast are they going.]*

She responded, "I am new at this and I know that these things don't have any brakes. I think I have figured it out. If I lean back and dig in the tails of my skis, I will slow down." I asked, "How is that working for you?"

Her response, "Well, I am new at this, and I am not doing it so well yet. I am sure that with more practice, I will get better at it."

That lady did not have a balance or a fear issue. I would not have known that without asking her. In addition, no matter what I did with her, she would have also wanted to continue to try to act out her belief based on her 'discovery' on how to slow down.

I simply then said to her, "Would you like to learn some other better ways to slow down?" Of course, she responded, "Oh YES!" She wanted to control her speed, just like you and I do!

Moral of story: Learn from the client. **Listen. They should be talking more than 50% of the time.** It's their learning and they need to be engaged and in control, taking responsibility for their time on the snow. Our role is one of **humility, listening and helping** them fulfill **their vision**.



**A**noetic Consciousness: Jaak Panksepp discovered the play circuit in mammals and developed an understanding of the affective domain in mammals. He and his colleagues also discovered a state of consciousness that we share with animals, it's called anoetic consciousness. The very interesting aspect of this tidbit of information is that **motor skills are developed and acquired only in this state of consciousness**. Cognitive processing prevents us from being in this state of consciousness. I will say that again, **cognitive processing prevents us from being in anoetic consciousness**. In order to develop motor skills, we will naturally flip into this anoetic state... and not 'think'! So, why not understand this and help the people we are working with also understand this! This means that when it comes time to ski, it's also time to stop with the detailed cognitive explanations and thoughts and switch to some simple external focus and action thoughts: e.g.



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where to go, or what to do with the ski or board, or how fast or slow do we want to go.... *This concept of anoetic consciousness is perhaps the most significant newer discovery that proves to us that we need to change the way we coach!*

**E**xternal Focus: Gabriele Wulf, and others, in her work on kinesiology and learning, have found that an external focus leads to more rapid skill acquisition. For skiing, an external focus is something that you are trying to do with the ski/board or where or how fast you are going - tip it, point it in some direction, balance on it, etc. This is the original skills concept - what you do with the skis or board. Focusing on some bodily movement, some muscle group with a detailed sequence of how the body works to produce some movement is not as good for skill acquisition. Certainly such body movement based background information is interesting and helps with understanding and 'convincing' someone to try something, however, that is not what should be in our thoughts when actually trying to 'do'.



Thus, our normal discussion might include talk about details, however before we start to ski or ride, it's always, "Now, let's just go and 'play' with making the ski/board do....or go 'there'..." The final advice is to simplify to some desired external focus and play with it, not to try to 'do it right'. There needs to be freedom to respect the intelligence of the body and allow the body to function as it was designed to function → External focus!

**M**irror Neurons: VS Ramachandran\*\* is a neuroscientist who discovered mirror neurons. Your brain, your nervous system, is distributed throughout your body. Movements and reactions often occur without any prior cognitive processing in the brain. Even when we see someone picking up a glass of water, we process and understand that first with our body, then our affect, then finally with our cognitive, conscious brain. **Body and emotional perception precede cognitive understanding.** (*Pessoa, Bishop and others*) Not only do we have our body mapped throughout our nervous system in our whole body, but parts of our body are also directly mapped onto our brain. (What is a sensory or motor homunculus?\*\*\*)

Our body can understand and process movements without us understanding or thinking of those movements. This is what we do when we ski or ride and respond to the environment. This is also what we do when we learn by watching and then doing. **We learn motor skills by doing, not by being told what to do and thinking.** The impetus is often curiosity or need...

**N**europlasticity, neurogenesis and  
**N**epigenetics: What the heck do these words have to do with seniors and snowsports? They are part of the main message of seniors and the concept of hope. For many years, scientists thought that when the brain was injured, the best prognosis was for the person to learn to adapt and to deal with the 'new' state of the brain. However, we are now learning how plastic the brain really is - how it can regenerate and recover remarkably. This is certainly a message of hope!



**Neuroplasticity** - Reaction is the key word. You cannot control the events or circumstances of your life, but you can control your reactions. We are wired for love, wired for the positive and we have a natural optimism bias wired into us. Our brain is neuroplastic - it can change and adapt or even regrow. There is hope! Old dogs can learn new tricks!

**Neurogenesis** - New nerve cells are birthed daily, every morning, for our mental benefit, for our learning, for laying down memories. Seniors have the same number of brain cells as teenagers. There is hope!



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**Epigenetics** - Eric R. Kandel's discovery of the 'switch' gene. We can indeed learn, grow and develop to meet new challenges that arise both from the environment and from our own thoughts! **New genes can be 'turned on' when we are confronted with new circumstances in our lives and our choices.**

The initiating signals for unraveling DNA and turning on new genes, creating new proteins, come from outside the gene. They come from both the external world as well as our internal world, e.g. our thoughts, our desires, our choices. Our choices are real and create real 'substance', protein. There is certainly hope. We can do it and we can still learn, grow and change. It's about choice.

Modern neuroscience shows that our thinking, our choices are real. They generate electromagnetic, electrochemical and quantum action in our neurons. Thinking can be measured. It can create substance in our brains. New genes can be turned on.

In addition, we have control and oversight. The frontal lobes of our brains also enable us to, so to speak, stand outside ourselves and observe our own thinking. We can be masters of our brains. That is good news and hopeful!



**The Dopaminergic System:** Our body has two main chemicals that elicit positive emotional response. One is serotonin which comes when a desire is satiated, satisfied, when a goal is achieved. This is great. However, what is even better is dopamine. This chemical is produced when we see progress towards a valued goal. This is what keeps us going. Dopamine is also what so many of the drugs such as cocaine mimic...

What this means in skiing or riding is that when we set a 'do-able' goal, just even a small next step that we think we can actually try, when we see progress towards it, we get a kick of dopamine. Hooray! We don't have to achieve it, just see progress. This keeps us going and keeps things fun. It is important to remember, that the goal is not the instructor or guide's goal, it is the individual's goal. This is part of the "together" with the individual taking the responsibility for their own 'day on the snow'. This is how our emotional system tracks progress towards our goals. This is how we feel "good".

**Chaos and Order:** While considering choices and goals, it is important to understand how we actually see the world. If you consider the "Frame Theory", you will remember that we see the world based on relevance to the goal or target that is before us at the moment. (Of course, there are many targets nested within other targets!) As we venture into the world, there is the older known and previously mapped territory that we understand and which we can call 'order'. That is the familiar.



However, there is also the 'new', the unknown that we encounter. We can call that 'chaos'. Often that unknown is 'scary'.... because we do not 'know' it.

It is interesting to note that our brain is developed to respond to both order and chaos. Iain McGilchrist, Norman Doidge, Jordan B. Peterson and others have been exploring how our left hemisphere is more adapted to dealing with order, what we know. It sees generalizations, categories, makes rigid maps and consider them 'reality', it sees isolated parts. The neurological connections are short and 'talk' to each other.

The right hemisphere is more adapted for dealing with chaos. It is holistic, sees things in context, reads emotions, empathy, sees relationships, sees people as individuals, tends to new information, change, seeks novelty, is concerned with the unknown. The neurological connections are long and go deep into the emotional parts of the brain and physical body.

This understanding, that **we are made to deal with chaos, means that no matter how old we get, we still have the capacity to deal with the new, the unknown.** Our senior brains are even more experienced and exercised. We have what it takes to explore the unknown. There is hope!

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**T**wo Approach Systems: As we talk about approaching something new, it is important to recognize that there are two approach systems for approaching the unknown, chaos, for confronting a dragon, a **voluntary approach system or an involuntary approach system.**

The **involuntary** approach system will elicit a fear response with a cortisol reaction - all systems are set to “on” and ready to fire. The **voluntary** approach system flows from the hypothalamus with curiosity and exploration. This will lead us to seek a desired goal which will then kick in the dopaminergic system as we see progress towards that goal. Obviously this voluntary approach system is the way to go when skiing and riding. This is what is also known as a “stretch”.

Sticking with the voluntary, curiosity approach is also a tool used by psychologists when dealing with people with various phobias. The object, or action that brings on fear, is broken down into little, doable chunks that are not nearly so daunting. For example, let’s take a senior who has decided that they might need to be able to ‘survive’ the bumps, because, one day, by accident, they might end up there, led by some friends or family. However, this person is scared to death of the bumps. How to begin? Would they agree to a simple trek into the bottom of a bump run, going across it, or even side slipping the last few bumps? Or possibly, just side slipping along side the bumps while looking at them? Anything that they may think is do-able. Then do a little bit more!

If you want to hinder learning, and promote fear with a cortisol response, all you have to do is to tell your client that you have faith in them and that they ‘can’ do it... and push them into the activity involuntarily - based on your ‘direction or command’. They will have a fear/cortisol response!

The whole idea is to approach the unknown voluntarily, with a simple, clearly defined desired goal. Dopamine will kick in, positive emotions will track progress towards the goal. It will be fun! There is indeed hope! Celebrate all successes!

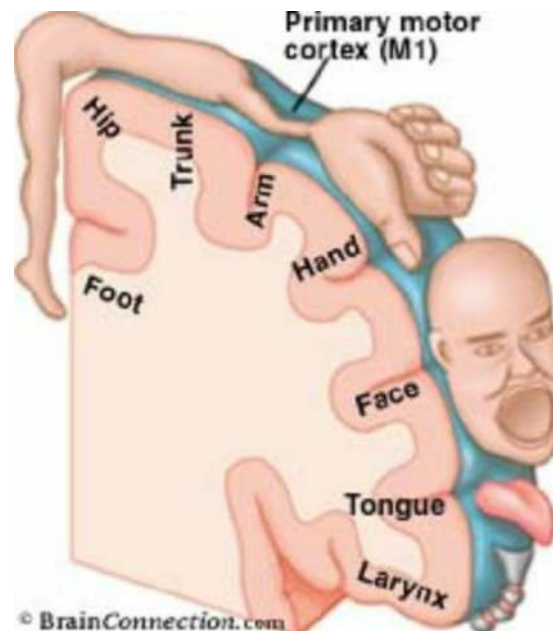


### Referenced Notes of Interest

\*The hypothalamus and cat story - This is a bit gross, but you can remove almost all of a cat's "thinking brain", the cortex, and if you leave the hypothalamus and motor strip (and keep the cat in a closed environment), the cat will almost act normal. However, it will be hyper exploratory. That is because it cannot learn and remember what it already explored. The motivation to be curious, to explore comes from the hypothalamus. Without most of the rest of the brain, it can't remember what it explored...

\*\*VS Ramachandran took his mirror neuron idea and created a box that had a mirror on one side, a spot on the top that you could look into it and a place in the front for you to stick in your hand. A patient, who had had his hand amputated, was experiencing phantom pain in his hand saying that it was clenched all the time. When he put his existing hand into the box, the mirror made it look like two hands, right and left. He then clenched and unclenched his hand. He exclaimed that his phantom pain hand also unclenched and didn't hurt!

\*\*\* Homunculus - The diagram on the right, is one of the versions of how your body is mapped onto your brain. There are both the motor and the sensory homunculus's. This diagram is the motor homunculus.



**More materials:**

<http://www.seniorsnowsports.org>

**PSIA-W:** <http://PSIA-W.org> → Resources, Senior Reference Materials

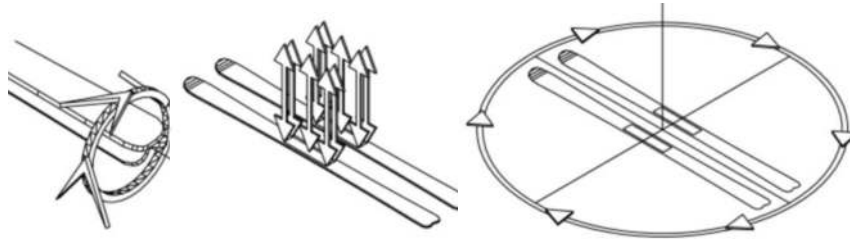
## Senior Specialist Handbook - Skiing/Riding with Seniors

### 3 - FURTHER UNDERSTANDING OF SOME TECHNICAL BASICS

- PJ Jones, Cookie Hale

As with all ‘advice’ or suggestions, we should never expect anyone to take our advice or to act on it, simply out of “trust”. We are all reasoning, thinking humans, responsible and accountable for our decisions and actions. We need to make sense and own our own sense making! We always respect that autonomy! Here are some fundamentals.

**S**kills Concept - There are not many things you can do with skis or a board. You can **point** them in a direction, you can **tip** them on edge, to various degrees, and you can **stand on** them, balancing and varying the pressure on them. With a board, you have the added pleasure of being able to **torque** the board. This obviously is the well known and long time accepted Skills Concept. It is valid for seniors to understand how simple skis or a board really are. So, it’s a really good thing to share the basic Skills Concept with seniors. It makes things simple and do-able, not daunting and complicated.



On the subject of skills, skiing/riding is considered an “**open skilled**” sport. This means that the environment, not only the person, is a major factor effecting execution of the skills. In snowsports, the terrain, the snow conditions, the weather, the other people, are all external factors that are always changing and effecting performance. We learn by doing, through experience and in an open skilled sport, repetitive action of some movement is not what builds the skill. Rather it’s exposure to a variety of environments and developing awareness and the ability to adapt - maintaining the freedom to try, to play, to explore what works best.

**B**ody Basics - The main objective of all skiing and riding is to be **always balancing on**, moving with the skis/board. Balancing is something our body has known and understood since we were babies learning to walk and play. When we are in balance, life is good and things feel great. We can do things. When we are out of balance, a little warning signal goes off in our brain, “Warning! Warning! Danger! Danger!” We make every effort to regain balance.

A few bits of information on how the body works is useful for the senior who wants to not break their body! Here are the few tidbits that have been found to be most useful:

1. **Foot-Ankle:** The foot is a tripod - heel, ball of foot and little toe side. The arch is the support system. In skiing, it’s important to stand on the whole foot, with the center focus near the back of the arch in order to be able to flex the ankle and stay in balance. Many seniors have been taught to stand on the balls of their feet. This makes it almost impossible to flex the ankle and maintain balance. *Try flexing by standing on your toes, then standing on the whole foot.*
2. **Articulating the foot:** In skiing, it is important to be able to articulate the foot, to roll onto the arch and then onto the opposite side of the foot. A footbed should allow this to occur.
3. **Knee:** The knee is a hinge joint. To use it as a hinge joint means keeping your hips lined up over the feet when you bend the knees. Imaging drawing a line through your feet and another line through your hips. These lines should stay parallel. If the hips are rotated in respect to the feet (as is

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often in the old fashion ‘countered’ position), you will hurt the knees if you flex much. Try it, look down at your legs, counter or rotate your hips, then flex and look at your knees and where your femurs point.

4. **Small of the back:** The small of the back should be slightly rounded or flat and ready to round. It should not be arched. This will protect the vertebrae. Think of jumping off of something. Would you ever consider landing with your back arched? No, you would land and flex forward to absorb the impact. This protects the spine. Skiing or boarding is like making slow motion jumps down the hill. You want to ‘land’ softly, bending slightly as needed to protect your back. (*Skiing is not weight lifting.*)
5. **Spine/Shoulders:** Your spine can twist. You have a turntable at your waist, near your belly button. Your shoulders can point in one direction while your hips in another. Sit in a chair. Turn your shoulders. Your hips don’t turn. This is how you can aim your upper body (waist up) when you start moving into a turn, while still keeping your hips aligned with your feet so you will be protecting your knees (as we described above).
6. **Hands:** As Alf Engen used to say, “By golly, you go where your hands go!” General rule is elbows in front of hips and hands outside of elbows. Not like a statue or Frankenstein...
7. **Head:** Normally, we try to keep our heads vertical or close to it.
8. **Total Motion:** We want to **stack our bones** to the physical forces of gravity and momentum. This will use as little muscular energy as possible. We want to only use enough muscle to move those bones to where we want them to go. This means that we stay as loose as we can and feel the force. We should not try to hold some perceived position. Since we are moving with the skis or board, we will always be moving! Total motion, always moving to stay with the skis or board, balancing always to control our direction and speed. Stay loose and go with the force!



**Physics:** All you have is gravity and friction! You can use both to slow down or to speed up. It’s not rocket science. So, you need to say loose so you can feel the forces and go with them, working with them and using them to go where you desire - where and how fast or slow!

1. Gravity - Where you point your skis or board will help determine how fast you go.
2. Friction - Putting your skis or board on edge means little friction and fast. Skidding or slipping the board or skis will produce more friction and slow you down.

### **S**KIING - Putting the technical

**all together:** The senior, aka ‘world cup’ skiing model, is stacking bones and moving in and with the forces, always balancing. World Cup skiers push the limits of the human body and their concepts of aligning the bones in the forces and efficient patterns, keeps them from breaking. Similar concepts, dialed back a bit, also work for seniors - it’s all about the body and the forces. It’s not complicated, but just takes some playing to learn and get more comfortable over time. To make a turn, you:

1. First, before you start to steer the skis into a turn, move a bit more weight to your new outside foot. Think of standing



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sideways on a slope and wanting to jump sideways down the hill. Which foot would you take off of to help move you down the hill? It would be your uphill foot. In making a turn, this is what we call your 'new outside foot'. Draw it out and think about it. In making a turn, you want to move down the hill. Before you start to steer your skis into a turn, put a bit more weight on that 'new' foot. How do you put more weight onto that foot? Try just taking it off of the other foot by slightly acting as though you were going to lift it. Don't lift it up, just make your new outside foot dominant. We are very two-footed when we ski, always using both feet, but always varying the distribution of weight between the two feet.

2. Before you steer your skis down the hill, you need to also start moving your body in that direction. We call it foreagonal - forward and diagonal. Why? Think of gravity. When you point your skis down the hill, they are going to pick up speed. If you are not already also moving with them, they will get ahead of you and you will become in the back seat, and out of balance. So, you want to start moving to where you want to go a bit before, or at least as soon as you start steering your skis down the hill.
3. As you start to steer your skis down the hill, you will also be using the ski design and start edging them and allow them to help you turn. How much edge will be determined by your speed and athleticism! Do you want to carve or scarve?
4. As you continue to steer your skis through the apex and across into the new direction, both gravity and centrifugal force will put yet more pressure on that outside ski. So to manage that pressure, to decrease it, you move with gravity, also down the hill, by bending, aka flexing, staying in balance and also moving with your feet as they move forward. If you feel your feet get ahead of you, pull them back.
5. As you flex, also start to move more weight to what will be your new outside foot, getting ready to do it all again. You should note, that as you start to flex, your upper body is already moving diagonally and actually starting into the new turn while your skis (feet through the hips) are still in the old turn. This is what we call 'finishiation' - you are always moving (total motion) finishing one turn and at the same time initiating a new one. Because you are always staying balanced, you are stacking your bones. We call that stackitude. Then since you are moving forward and diagonally into the new turn, we put it all together and call it foragonal finishiation with stackitude. This has become a senior thing.... LOL
6. Total motion - you are always moving, always bending, unbending, edging, steering, balancing. You are staying loose, feeling and moving in and with the forces. Kind of fun and addicting isn't it! **Surf gravity! Go with the Force!**

### Technical

Tip, Point, Stand on Them  
Torque for Snowboard  
Where are you going?  
How fast?  
Gravity and Friction



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### 4 - CREATING A SENIOR PROGRAM AT YOUR RESORT

- Jon Mahanna,  
Bill Teague

*“The reason I can’t act my age is because I’ve never been this old before”*

#### **Critical Must! → “Ownership and General Manager must be supportive and excited about a Seniors Clinic Program”**

The volume of senior skiers and snowboarders is continuing to grow especially with the newer equipment and senior skiing/riding and teaching model. We have to remember that seniors don’t quit because they grow old, they grow old because they stop playing. It has been noted that here in America an individual turns 50 every 7 seconds which equates to 12,500 new seniors everyday.

Thousands of senior athletes are forced to stop playing sports prematurely due to injuries and pain that could have been completely avoided if they knew how to *“reset their bodies”*

The following is a guideline for developing a Seniors Ski/Snowboard Program at your Resort. As the headline of this document states it’s imperative for Ownership and Senior Management to support this Senior Program. Without their support it may be a futile attempt to get this program going.

So, let’s talk about the benefits to the Senior Skier/ Snowboarder ages 50 and above. We will market and introduce the latest techniques developed for our current skier and teaching models. Safety is always the top consideration when entering any sport and our Senior ski program will address a safe environment as a must. Our new Senior skiing and riding models allow for less resistance on our joints and muscle groups. This allows for a longer ski day with less fatigue. The newer equipment adds to a rewarding experience with comfortable boots with softer flex patterns at 80-100 flex. The skis also have made turn initiation easier as well as creating better lateral balance with a hip width stance. For Seniors having only one pair of skis its recommended that women ski around 160cm ski and men around 170cm skis. The millimeter under foot should be in the 82-88mm width. Skis with underfoot 90mm and above can be damaging to our knees. With the proper equipment it will create confidence with their skiing/riding ability.

Probably the number one benefit of a Senior Program is the Social aspect and creating friendships. Many seniors come into Senior Programs to meet others, share memories and have fun. The social interaction is an intrinsic part of life. It happens spontaneously and unconsciously. It might be from an individual’s skiing history or just the fun atmosphere of dialog and laughter. A good laugh reduces tension, inspires a positive outlook, removes barriers, increases motivation and builds trust.

Marketing the Senior program again reflects back on the Owner, General Manager’s support. Create a first impression to arriving guest with signage outlining the program and benefits to those over the age of 50. Contact social Senior organizations to explain the program and benefits it offers. Social media is a must to get the word out on a regular basis. Newspapers, Radio, Television, Facebook, Instagram, blog, etc. Have greeters and Customer Service personnel at Resort hand out literature explaining the



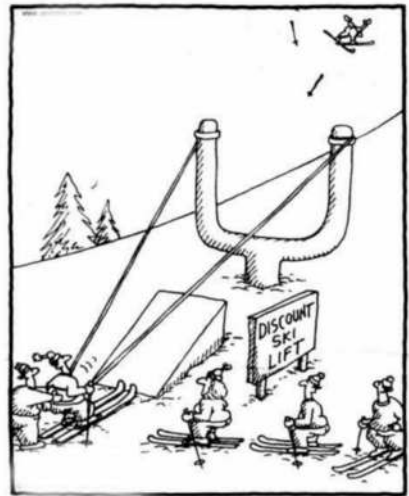
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Senior program. Have signs or posters throughout the community. Have a dedicated Senior skier who has been in program before act as a liaison to the resort and generate excitement and get people looking into the program. Create a catchy “acronym” for the program. IE: Boomers on Groomers, Grays on Trays, etc.

The format of the program is up to the resort. An example of a program is 3 1/2 hour morning program. Begin with 1/2 hour meet and greet with refreshments and talk about what the day will be like. Have them talk about their own snow sports histories. On hill coaching and clinching for 3 hours with frequent breaks for hydration and use of restroom facilities. Finish the clinic with a recap and hand out a progress report to all who attended.

The value to the resort has many benefits. Individuals take ownership in program and spread the word. There may be up-sale for new equipment, lockers, etc. Kids and grandkids come to the resort and ski/snowboard. From the resorts perspective they look at revenue stream with this new Senior program as well as the retention of senior skiers/snowboarders for many years to come.

The cost of the program has to be affordable with a positive return on investment to ownership. Needs to be competitive with other Senior Programs at surrounding resorts. Clinic size ideally should be a 6 -1 or 8-1 ratio. Many Seniors are on a limited fixed income and are very selective on how they spend their finances. We need to be aware of a comfortable price as a way of growing and building a successful Senior Program.



### Bullet Items on Starting a Senior’s Program

1. Ownership and General Manager must support the idea to have a Senior’s Program.
2. A return on investment (ROI) must be developed to look at the financial feasibility of a successful Senior’s Program.
3. Marketing this product is critical to get the word out and gather potential participants. Brochure, Posters, Banners, Senior Organizations, Social Media, Newspapers, Blog, Catchy Acronym, Word of Mouth, etc.
4. Level 2 or Level 3 PSIA Experienced Instructors, Senior Accreditation Instructors ideal
5. Get a Senior Skier to help promote
6. The health importance of staying active and skiing/riding more efficiently. Promote this statement!!
7. Competitive Pricing and cost effective for a established ROI.
8. Have a dedicated area to meet and greet participants with coffee, pastries, etc.
9. Email blast to all Season Pass Holders over the age of 50 and develop a data base.
10. Benefits of latest technique, equipment, grooming, and the most important “Social Interaction”



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**5 - FURTHER DEVELOPING YOUR PHYSICAL CONDITIONING**

- Suzanne Nottingham