Director’s Turn

As a Sugar Mt. Instructor

By Len Bauer
PSIA-E Alpine, Level III
AASI Snowboard, Level II
Director for 21 years
30+ years at teaching
U.S. Ski Coach Assoc.

Is to create a high quality, friendly first time experience for the people that come to Sugar Mt.

Is aiming toward providing a learning experience that will assure the student an enjoyable first day on snow snowboarding or skiing.

Is assuring the first day is fun and hassle-free with emphasis on learning and safety, rather than technical excellence.

Is providing a level of quality experience and service from a staff that is mature, sensitive toward the student needs, demonstrates people skills, is well trained and highly motivated to provide a safe and fun experience here at Sugar.

This attitude must be the driving force behind each instructor to assure success in our snow sports school.

You can enhance your technical skill with on snow training, but to be really successful you must first have the ability to meet and handle the public well.

1. Get to know your customers/students, create rapport and personalize relationships.
   a) Remember first names
   b) Where are you from?
   c) How did you find out about Sugar Mt.?
   d) What are your impressions so far of Sugar Mt.?
   e) Ask questions?

2. The more you know about students, the more they know about you,
the more you create a condition conductive to safety, fun and learning, the more your students feel you have an interest in them.

3. Gain your students’ trust, display competence (helps overcome fear.)

4. It must be very clear to your student that your prime interest is in them!!!

5. Be a motivating factor snowboarding and skiing is fun, exciting, great outdoor experience easy to learn, a sport they can enjoy the rest of their lives.

6. Indicate next step after first lesson. Plant seed now for return visit to snowsports school. For next three visits to Sugar, taking lessons is a must! Only one lesson is an invitation to disaster! Eliminate bad habits, the more you know, the more fun you have (safety!)

At end of lesson
1. Remind of at least 3 more lessons
2. Promote private lessons
3. Answer questions
4. Give advice where to ride, what to practice, what to look out for (safety)
5. Thank you for visiting Sugar Mt., please come back, tell your friends to come and take lessons
6. Lessons make it safe, fun and helps return trips to Sugar Mt.

Sell yourself, sell safety, sell fun, sell skiing and snowboarding. **Sell Sugar Mt.**

A successful lesson, thus keeping the interest level to learn more about skiing and snowboarding very high, which motivates the student to come back to take more lessons for another quality experience, which translates into: the better you ski or snowboard – the more fun you will have skiing and snowboarding.

**Humans were never meant to hibernate!**

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**From the Top**

*By Witold Kosmala*

*PSIA-E Alpine, Level III*

*K2 Ambassador*

So, the season for the winter sports has begun (or almost begun) throughout the US. There are several thoughts going around, like the instructor retention, instructors affect on ski industry, and of course, the new 63rd Warren Miller’s movie “Flow State.” Directors from many ski/snowboard schools across the country are exchanging ideas of how to keep instructors coming back to their schools. After all, how much money can an instructor make teaching? Is it truly enough to make a living? It is a lot of fun hearing and reading on the extent of directors’ and administrators’ methodology across the country. They use complicated pay scales and reward systems; conduct daily clinics (yes, daily); they train you for certification exams and expect you to pass, and pay for the registration fees when exam is passed; and the list goes on.

Then of course, here we are, the instructors, holding ski industry in the palms of our hands. Often in one hour’s time that we work with guests during their lesson, either we turn them off, or we get them hooked for life. It is not enough that we, instructors, teach our guests the skills. We have to “sell” them the love for the sport. The guest has to see this love in us, in our eyes, in the way we move, talk and perform. We can’t just have a good lesson. It has to be an extraordinary lesson. Every pointer that we make has to be right on target and has to be wrapped with positive comments, a smile and soothing voice. And, you are going to ask: how and where can all this be learned and then executed hour after hour on the slopes with wind blowing, snow guns going where no one can hear anything you are saying? How can anyone be so caring about the guests to try to make that one, or one and a half hour long lesson a splendid memory for our guests? I don’t have the answer for you. I am sure that our Director, in conjunction with our Administrators, are working very hard trying to answer these questions because they have much more at stake then we do. But, I can tell you one thing: more humbled you have been in
life – more humanitarian you are going to be and you will care about guests like no other. And, the better and more educated the skier/rider you are – the better instructor you are going to be. And, the more in shape you are – the better you are going to perform. I will let you drool over the humility part, I will touch on the other ideas.

Are you educated enough in your sport? Do you really know what to say to your guests, and how to say it? Do you know what causes guest’s particular poor performance and what sort of drills would help them improve those issues? Everyone has their own shortcomings. No one knows it all. But, you can learn more. Become better educated about your sport. Become a better performer yourself. Ski with others, attend all the clinics that you can, become a member of an organization like, for example, PSIA (see the article on page 4), get certified, read literature, go ski other mountains, other terrains, go passed your comfort zone. Don’t forget that part of your education is knowledge of your equipment. The equipment that you are on should be appropriate for the conditions you are in so that you can be a good performer.

Then, there is the physical aspect to snow sports. Get fit. But, you already are, right? Well, there is always room for improvement. Remember, performance always suffers if you are fatigued. Examiners often use this trick to see all the imperfection come out into the open in the certification exams. More importantly, if you ventured far into a no-man’s land and you want to return home all in one piece, the more in shape you are, the more likely you will succeed. With this in mind, don’t just ski to get fit, hit the gym or a bike or regular basis.

Yes, the 63rd Warren Miller movie “Flow State” is out. Chris Anthony, a multiple-time author for our Peak Performance, talks about this movie, which is his 23rd appearance on a Warren Miller movie. See: http://kdvr.com/2012/11/12/warren-millers-flow-state-2/. It is fascinating to see those old long wooden skis. It sure brought me a lot of memories, since I started skiing on such boards which initially did not even have a metal edge. Later, I was reading PSIA-E’s Fall 2012 publication SnowPro. Don Haringa, our new PSIA-E Director of Education and Programs, also talked about skiing on wooden skis at a young age. And here we go, memories all over again. But, my brother Andrzej had a great idea: he painted our skis, and boy, did they started to slide better. Later we get metal edges nailed on. Where did all those years go??? Not that I necessarily miss them. I DO enjoy these new shaped skis. They just don’t want to go straight. Just the other day I played a little on my bike ride. I tipped my bike on its side and tried to go straight. It was just so hard to keep it from turning, just like these new skis most of us use. You tip them on their side and you just can’t make them go straight. BUT, don’t get me wrong; there is much, much more to skiing and riding then just tipping your board on its edge.

You know, there are all these new ideas coming out pertaining to new ski equipment. You heard about the boots and skis in our previous publications. But, here is something different yet. Just think how 4 edges would hold you compared to 2 (or one on a snowboard?) Check out the pictured Twin Parabolic Skis of Charlie Pyott. So, what is coming next?

So, how was your Thanksgiving? Did you have a special family gathering or did you come to the slopes of Sugar? Did you survive the Black Friday shopping day? Did you by any chance get you some new winter stuff? How about Cyber Monday? Did you go to the office and finish your shopping on line? Are you now ready for Christmas? Besides, what does that really mean to you: ready for Christmas?

You probably remember reading in our past issues of Peak Performance that my son Konrad was the one who made them look really nice. He worked so hard to help me out. This summer he designed PP Templates for me, taught me what to do, and turned me loose. He still helps me with some things, but I am mostly on my own – so wish me luck in getting these publications out to you. Konrad has his own new website. You might wish to check it out. It is: konradandco.com.
I still keep posting *Peak Performance* on my web page that can be found at

www.mathsci.appstate.edu/~wak/.

Our past issues can easily be downloaded from that page. I strongly encourage you to flip through the pages of those issues. There is some good stuff out there. And, please, don’t hesitate to write me at Kosmalaw@bellsouth.net. Remember that our intentions are to promote the snow sports to the best of our abilities. Your ideas are all welcome!

You know that New Year is around the corner. Have you made your New Year resolutions yet? Our next publication will be next year, but we will talk before then. Have a very Merry Christmas full of memories and blessings! Witold

**Main Course**

**Be a Ski or Snowboard Instructor**

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**How To Become a Ski or Snowboard Instructor**

Professional ski and snowboard instructors come in all shapes and sizes and from many different backgrounds. Some are part-time, some are full-time. Some prefer teaching beginners, or kids, because they enjoy introducing new people to the sport, while others are coaching competitive athletes at the highest level. But at the end of the day, all snow pros are here for the same reason – to celebrate the community and culture of the sport, and to share that experience with as many people as possible.

**PSIA-AASI Education and Credentials**

The PSIA-AASI Board of Directors and national office staff are committed to providing association members with the most comprehensive, compelling, up-to-date resources for improving the on-snow experience for skiers and snowboarders of every age and ability. They work directly with the regional divisions and members to create specific education material for each of the disciplines that our members teach: alpine skiing, nordic skiing, snowboarding, and adaptive skiing and snowboarding. In addition, we also provide materials focused on children, freestyle, and even cross-discipline material that address how to teach a great lesson regardless of how you slide on snow.

PSIA-AASI also offers professional certification and certificate programs for those instructors looking to gain peer-reviewed recognition of their skills and knowledge. PSIA-AASI develops national certification standards with our industry partners that provide the foundation for these credentialing programs.

**PSIA-AASI National Standards**

The following are the current PSIA-AASI education/certification standards. Referenced to PSIA-AASI manuals, terminology consistent with these manuals is used throughout these documents. These standards provide a training focus and represent a minimum competency for each level of certification.

**Membership Benefits**

From professional development to expanding your abilities to share the ski and snowboard experience with others, to making lifelong friends and memories, PSIA-AASI is devoted to helping you make your time as an instructor as rewarding as possible. The vision of the Association is to inspire lifelong passion for the mountain experience, and the Association mission is to support our members both personally and professionally, and to create positive learning experiences and have more fun.

**Membership Levels**

PSIA-AASI membership consists of both registered and certified members. Once you join the Association you

*Peak Performance*
become a registered member. When you take and pass your Level I, Level II or Level III certification exams, you
become a certified member or instructor.

Member Profiles
PSIA-AASI provides so much more than just a membership; it provides a connection to people that are excited
about skiing and riding and sharing that passion with others. And, it provides a connection to sliding on snow
that has the power to change lives. On the Member Profiles pages, ski and snowboard instructors from across the
country talk about just how deep that connection can be.

Become a Member
Joining PSIA-AASI is easy. First, determine at which ski and ride area you would like to work or volunteer as an
instructor. For help seeing where schools are in your area, and across the country, check with your local PSIA-
AASI division office. The division office can also let you know which schools are PSIA-AASI member schools
and send you a member information packet.

Divisions
PSIA-AASI is made up of nine regional divisions within a national organization. The national office is in
Lakewood, Colorado, and the divisions are located around the country. Divisions deliver the on-the-ground
services to the members in their regions including educational events and certification exams.

The Matrix Revisited

By Gordon Carr
PSIA-E Alpine, Level II

I dare say there is not a snow sport instructor alive, who, at one time or another following a lesson, hasn’t groaned inwardly with chagrin at having presented too many
different tasks, concepts, or drills for a class or private lesson to absorb. I believe there
are many reasons why we are guilty of this overload or “information dump” foisted on
our guests, the most noble of which is that we have such passion for our sport. We want
our students to share our love affair with the snow, and to do so, they must have the
skills to flow effectively down our winter wonderland! We may also want our guests to
believe they are getting value for money spent, mistakenly equating number of different
tasks or drills or concepts covered with “value”. Au contraire mon ami, probably what our skiing and riding
guests get when we present too much material in a lesson is just confusion. There also may be a slightly darker
side for our “slips” in judgment as to the pacing of learning tasks during lessons.

I can best illustrate this less than noble motivation by relating a rather embarrassing account of my history as an
instructor. In looking back to my earliest years as a ski instructor, I now realize I was painfully conscious of how
little I knew about skiing or teaching others to ski. And, I was also convinced my shortcomings were glaringly
obvious to guests assigned to me in classes. I wanted them to love skiing as I did (and do); I wanted them to
believe they were getting their money’s worth, and most of all I wanted them to trust that I was the person to help
them learn fundamental skills about snow sports!

I know part of what I presented in ski lessons (I hoped it was just a small part, but I fear not) was done to
demonstrate what I KNEW about skiing. Later, as I became more confident in my own knowledge and abilities
in both personal skiing and teaching, I became acutely aware that I had become more focused on what the guest
NEEDED rather than what I wanted to “prove” I knew. But with that awareness, reflection on my earlier
teaching behavior became even more embarrassing. It is still humbling to remember the times students would ask
me “the time” and I would “tell them how to make a watch” or worse show them how to make the factory! Just
remember, sometimes less truly is more!

There are several caveats to this discussion. With all our learn-to-ski — ride guests there IS a lot of information
which must be presented and many new skills to which the learners must be given exposure and in a very short
time. Probably in most of our Learn-To group lessons we have “this moment” to help them learn enough skills so
they can glide, turn, stop, and ride the lift and taste just a bit of the thrill and excitement of which we all have so
full a measure. If it doesn’t happen on this day for our “Learn-To’s”, we probably have lost them. We must have
the learners moving down the hill with smiles and giggles and that does, in a sense, mean helping them become
aware of an awful lot of new concepts, feelings, and movements in a relatively short time. That first lesson is
almost “overload” by definition. But this article is about the higher level of classes and instruction where people
know the basics and where pacing in lessons and more precise content limitation may be appropriate. What I’m
now talking about more directly applies to advanced lessons and our own personal skiing and riding
improvement.

The second caveat, which you all know already, is that ALL the skill sets in skiing and riding are interrelated.
You don’t present a skill task seemingly directed toward improving edging skills in a lesson without that same
task affecting balancing, rotary, and pressure management muscle movement skills! In fact one can argue that a
very clever and effective learning strategy, under special circumstances, involves redirecting our student’s
attention AWAY from a specific skill set (which really does need development) so that blocking fear or anxiety
can be lessened. In the PSIA-E event here at Sugar Mountain several years ago, our group discussed and
practiced just such cognitive diversion. At a certain stage in becoming comfortable skiing moguls, directing
attention to “squeezing pole handles more firmly” and “listening for the pole tip to touch the snow” may help the
learner relax a bit and become more muscually flexible permitting necessary dynamic flexion and extension.
The redirection sort of submerges the moguls under the effort to “hear” the pole tip touch the snow.

Anyway, the point is no matter what you, as the instructor, verbally direct the class’s attention to in task and skill
drills, ALL the skill sets are being dynamically affected. So an effective way to maintain unity in focus and to
decrease information overload is to pick a skill set or task or tactic related to this student’s assessed need, and
then stick with that focus and “work it” in as many ways as possible. The matrix below, which lists four levels to
each of six dimensions, gives 16,384 possible combinations through which you could work a topic, vary a task,
or maintain lesson focus without significantly altering the fundamental lesson emphasis, from the guest’s point of
view. I could have added additional dimensions, e.g. phase of the turn; initiation, shaping, completion and added
even more combinations. Of course once you select a focus, e.g. “edging” or “short turns”, the number of
combinations drops to only 4096 of additional ways to blend the riding (probably a few more than what could be
covered and “worked” in a day or two.) Without talking much except to provide appropriate and timely feedback,
you could ski the britches off a group using various combinations from the chart below. The mileage chalked up
would provide opportunity for your class to take ownership of the task, skills, or tactic under focus.

<table>
<thead>
<tr>
<th>MATRIX 1</th>
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</thead>
<tbody>
<tr>
<td>SKILL FOCUS</td>
</tr>
<tr>
<td>ROTARY</td>
</tr>
<tr>
<td>EDGING</td>
</tr>
<tr>
<td>PRESSURE</td>
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<tr>
<td>MGT</td>
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</tbody>
</table>

Granted, some of the combinations in the matrix are combos of tasks or drills which challenge skills in ways in
which even you, as an instructor, wouldn’t want to grapple and therefore are not really “practical”. Always
remember we must be competent at the tasks we ask guests to perform so that we can accurately demo them. For
example working on altering the balance point fore and aft under foot, in long turns, at high speed, on double
black trails, on ice, with a double fall line may not be everyone’s cup o’ tea! But, look at the picture at right of
Bode on the Birds of Prey Course World Cup Downhill on 12/06/09 (previously in Peak Performance March,
2010). Could anyone recover and avoid a fall from that extreme “balance to the rear” position at 50 or 60 mph?
Bode did, and though losing his 1st place time up to that point he finished 4th! I reckon he’s practiced the drill I’ve
listed above. But we mortals don’t want to go there ourselves and certainly won’t take classes there. However,
the point remains all of these combinations of factors and conditions alter the dynamics of EVERY skill set with
each and every change in any dimension. With such combinations possible do we ever need worry about “having

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appropriate material” to present in lessons to help our guests move along on their ability journey?

Don’t discount the “slow” listed under the speed dimension to help in mastery and ownership of skill sets. One of the most difficult, in the sense of technical difficulty, learning tasks I have ever worked on is to hold the completion phase of a turn and continue arcing uphill until you almost come to a stop. The purpose of the task is to see just how slowly you can go AND STILL make the crossover to initiate the next turn with simultaneous edge change (NO 1-2 or stemming!). The slower you go, the more difficult this becomes especially if you are on a bit of a pitch. I challenge all of us to try this one…it really tests your mastery of crossover skills, fore-aft and lateral balance, simultaneity of edge change, and subtly of pressure management skills (I did say they are ALL related). Yeah! Yeah! I know Will Mauney’s Mobius Flips and a bunch of terrain park and off piste stuff are really really difficult; but I’m mostly talking about stuff we mortals do and things appropriate for use with the “typical” recreational guest in classes.

Several final points; 1.) Always introduce and teach difficult tasks on easy terrain; 2.) Introduce very easy tasks, which are developmental in nature on difficult terrain (meaning the student can revert to existing skills if unsuccessful on the new task) [see Peak Performance, November 2010, Developmental Or Corrective for more on this dichotomy]; 3.) Always have a bail out, an easy way down, in case someone in the class just doesn’t have the basic skills for safe execution of the task or terrain in focus; and, finally 4.) As my old chair lift buddy Earl Brown often laughingly said, “First we teach what we want to know. Then we teach what we know. And finally we just teach!’ (implied but left unsaid: what the student needs). In your own personal riding and skiing, have a focus on most of your runs; using Matrix 1’s various combinations may give you some cues to truly “work” your focus. Let’s all have a great teaching season where we “just teach”.

THINK COLD AND SNOW!

10 World Class Ski Resorts Within an Hour of Park City and Salt Lake City

By Mike Doyle

I was taking in some sun on the ‘Beach’ at Canyons Resort in Park City and chatted up three college kids from Michigan. It was a Thursday afternoon and they had arrived in Salt Lake City airport the night before, chipped in for a rental car and headed up to Park City where they kept sleeping bags in the basement of a friends grandfather who enjoyed their company.

These guys were experienced Utah skiers making as many as six or seven trips a season mixing and matching the best Liftopia deals relative to the dates they could book out of school. This trip they were down for five ski days and had printouts for a two day deal at Canyons Resort, two days at Deer Valley and a day at Park City Mountain Resort.

Friend’s granddad had clipped dining coupons out of the local paper so when I commented to the boys that they were setup to eat, sleep and ski about as cheap as possible they had a better comeback.

They had made friends while skiing with some Salt Lake City locals and on other trips they couch surf with these acquaintances and plan Liftopia deals for either Solitude and Brighton in Big Cottonwood Canyon or for Alta and Snowbird up the Little Cottonwood Canyon. On these excursions they grabbed local shuttles to either BCC or LCC - saving the rental car.

It’s amazing how much knowledge you can get in college about skiing on the cheap.
Seriously anybody can plan a ski Utah vacation and save money. The best way to ski a lot of Utah resorts is to set up your lodging choice in either Park City or Salt Lake City and, with Sundance down in Provo and the Ogden area big mountain resorts of Snowbasin and Powder Mountain you have your choice of 10 world class resorts to ski the Greatest Snow on Earth - all within an hour drive of Park City or Salt Lake City.

I grew up in upstate NY skiing around the foothills of the Adirondacks. One of my early favorite places was the long rolling hills of a rural cemetery. With high school came ski club and trips around the northeast. The military sent me to Europe, I stayed there for 2 years skiing the Alps – God Bless America. Back home I took a liftie job at Killington then headed west for a while, I still have a place in Killington because I love skiing the east. When I found Utah and Park City I saved to buy a small place where I could take a bus to 3 world class resorts and commute to a bunch more. I took the job doing the Skiing web site for About.com. I couldn't believe I was paid to write about skiing - how cool is that?

I am constantly being asked ‘What’s your favorite ski resort?’ Well, from a guy who grew up lugging skis down railroad tracks to ski around gravestones I can honestly say – If it’s got snow and gravity it works for me. See you on the slopes.

On Top of Park City

By Eric. S. Marland

The poem on the next page is a “he said – she said” take on skiing on a fresh powder day and finding that a love for powder may trump other lesser passions. The classic phrase “no friends on powder days” comes to the fore as finding a good line of powder becomes more and more difficult as the day wears on. When I patrolled at Brighton, I could find small pockets of fresh snow all day long - as long as I didn't mind a little bark on my jacket. When thinking about this situation, other phrases come to mind that are reminiscent of t-shirt fodder in snow country ski shops – “I would wait for you, but it’s a powder day” or “just because I sleep with you doesn’t mean I am going to ski with you.” The poem should be sung as a duet to the tune of “On Top of Ol’ Smokey.” I suggest some melancholy guitar strumming and lots of beer to go with it. I also suggest that you not tell your spouse how much you agree with ditching your loved ones on powder days. This could cause unnecessary conflict before it becomes relevant.

Eric Marland spent time with the National Ski Patrol at Ober Gatlinburg TN, Winterplace WV, and Brighton UT, before work took him away from ski country. Now back in the mountains of NC, Eric spends more time racing bikes than skiing but still dreams of Utah powder. Eric (Dr. Marland) also is a professor in Mathematical Sciences at Appalachian State University and advises the Appalachian Cycling Club.
On top of Park City,
All covered in snow.
I lost my dear lover,
From skiing too slow.

She skied off a cornice,
And into some trees.
The snow was all fresh there,
As deep as you please.

Her form was so graceful,
Surrounded by fluff.
I stared at my dream girl,
As she strut her stuff.

I soon could not see her,
Through the snowy white haze.
She so loved the powder,
It was one of those days.

Her tracks perfect s’s,
What a fanciful sight.
My eyes started tearing,
As she skied out of sight.

I started to tremble,
And cried out in pain.
I just could not stand it,
I had made it so plain.

Now she really did ski well,
Every pole plant divine.
But I knew it was over,
When she skied my line.

So when skiing Park City
Now you know what’s in store
Keep track of your loved ones
‘Cause there’s powder galore.

Cross-Training

Art of Ice Skating

By Wendy Snider

The world of figure skating is as old as snow skiing and the similarities are abundant. We often view figure skating as jumps, spins and choreography; however, the technical skill of execution is the same as skiing. I guess a person could write a book on the topic, but I do not purport to be an author. My heart belongs to “living the dream” of winter sports where a person is energized by the magnitude of possibilities that prevent a sedentary lifestyle during the cold winter months. It’s the innate posture of the human body that brings opportunity to cross train bringing a symbiotic strength to your passion. Mine began as a competitive figure skater 45 years ago which...
today crosses paths as a ski instructor. Sugar Mountain Resort offers this opportunity to strengthen skills required in skiing on our outdoor 10,000 foot ice rink. It is here that I realized the significant benefit figure skating lends to snow skiing.

As children, we begin training with little technical knowledge. Children race through the gates and land double axels with ease until they reach a certain age when the technical aspect of training drives ability. I remember my coach, Carlo Fassi, repeating the phrase “pointed the toe” (Mr. Fassi was Italian, hence the grammatical errors) while training in compulsory figures for hours. I often wondered why this was so important…I just “pointed the toe” harder and miraculously it worked. My edges were perfect; my tracing without wiggles and my medal was gold. All because of “pointed the toe”. Such a simple secret meant gold? As an adult, teaching figure skating to young children, I find myself repeating the phrase. It works! I’ve pondered the reason the great Carlo Fassi perfected his students compulsory figures with such a simple phrase. Or, was it just a simple phrase?

No, it was complex technical training that forced perfection of edging, pressure and rotary without the technical jargon.

Skiing requires three components: edging, pressure and rotary. The movement of skiing and figure skating requires balance. Balance either encompasses all of these or is the fundamental requirement of pressure where edging and rotary is performed in absence of balance. This debate will outlast all of us, but the simple toe pointing embraced all components of skating.

Take a break from reading: Stand up on two feet. Straighten your right front leg and elevate it a foot above ground. Now, relax the right foot while standing on your left leg. What sensation do you feel? Now, “pointed the toe” HARD, while still balancing on the left leg. What sensation do you feel? Do you feel pressure on the balls of your left foot? Did you wiggle as much? What happens to your abdominal muscles when you point the toe? Did your center of mass shift? The exercise sets the body into a balanced position at which time the figure skater can execute a rotary change forcing edge control. If the skater is not balanced, over the balls of the feet, the rotary execution causes a wiggle edge. Carlo Fassi realized that the technical aspect was far too complex for a young child and adopted the “pointed the toe” phrase to force edge control.

Figure skating requires ability to change from an outside edge to an inside edge on one foot while completing perfectly shaped arcs. When I competed, we had to execute a perfect figure eight on a clean slate of ice and trace the pattern three times. Judges measured distance, looked for double edges, and crawled on the ice for any imperfection. The gold required perfection of all three components: edge, pressure and rotary…balance was a necessity!

Correlate this to skiing? Think about the pressure required in controlling the radius of a turn. Imagine skiing down Big Red on one foot executing perfect radius turns. Okay, this is getting on the more advanced stage of pressure, edge, rotary and balance, but you can see the correlation. If you can execute the same arc on ice on a blade 1/8 of an inch wide…imagine how easy it is to achieve edge, pressure and rotary on a huge ski with two feet on the ground.

Practicing edge control while skating. Notice the “long leg – short leg”. The left foot is on an outside edge, while the right leg is on the inside edge. Pressure is on the balls of the foot. Notice the left knee and hip placement during the edge control arc.
Skiing requires Initiation, Direction and Completion. So does figure skating. The perfect arc in skating is the same as a radius turn in skiing. Think about the initiation into a jump, the direction of the jump and the completion. Or, correlate the same concept to the three phases of the skiing turn and the general timing of movement patterns. Or, the same in the required figure skating element of changing edge spirals. Edge change, weight transfer, inside leg shortens...inclination/angulation, steering, flexion...re-center of body, change of mass, weight re-distribution.

Next time you have a little time to cross train, head down to the rink. Just as beginner skiers struggles, you may struggle on figure skates. But, if you persevere beginning stages of learning to skate, you may find a benefit to your skiing. Practice gliding on one foot. Practice making a perfect radius turn on ice with no wiggles. Practice changing from an outside to inside edge on a 1/8 inch blade. Roll onto the edges and feel the pressure required and what part of the body performs the rotary to initiate a change of edge. You may find it difficult and embarrassing, but the sensation is so easy to feel on the ice when a blade is only 1/8th of an inch. Plus, if you can perfect a radius edge turn on “real” ice...imagine how easy it can become on a semi-icy slope. Remember, “Pointed the toe”.

I rejoice that I enjoy skiing, snowboard and figure skating. My dream is right here. Carlo Fassi died of a heart attack at the World Championships. A loss to many, but his legacy still lives on. I am honored that Carlo trained me as a figure skater. I hope to pass his Olympic techniques to others at the rink. If I can leave one small task to Peak Performance readers, it is to view the innate opportunities figure skating provides as a cross training opportunity for skiing. Even if you never put on a pair of skates, maybe you'll view figure skating through the eyes of a skier to see the perfection required to execute the same movement, but on a tiny 1/8 inch blade on a sheet of ice. Today, I am still training, but on skis and a snowboard, with some of the best ski/snowboard instructors. Thanks to all who make my winter a wonderland!

I invite everyone to watch Carlo Fassi’s student, Olympic Silver medalist Paul Wiley, perform at Sugar Fest on Friday night December 7th at 7pm. His edge control, pressure and rotary movement from a skiers perspective is perfection! Then, ask him to school you down Whoopdedoo! Amazing perfection of a figure skater.

Wendy Snider began competitive figure skating with world renowned Carlo Fassi when she was six years old. Colorado Ice Arena became an international facility where world class skaters trained under Mr. Fassi’s guidance. Dorothy Hamill became her inspiration and friend whether skating side-by-side perfecting compulsory figures or sneaking away from the ice to play pin ball at 5am. Wendy received her PSIA Level 1 and AASI Level 1 certification while instructing at Sugar Mountain Resort; however, her passion remains coaching young students in figure skating.

From Cars to Skis

Racing Line

By Witold Kosmala
PSIA-E Alpine, Level III

There is an amazing connection between driving a car and skiing. They both turn in front, they both have outside and inside wheels/edges, they both go on a surface, they both accelerate and slow down, they make turns, they slip and slide, oversteer, understeer, and so on. And, you can race them both. But for some reason people can relate to driving a car much easier than to skiing. So, I thought that for a few issues of Peak Performance I will bring up different things about cars that can translate directly to skiing. In the previous issues we briefly discussed smoothness, oversteering, understeering and tires. In this issue we will briefly talk about a line a car racer should take to take a corner in the fastest possible way. This brings us to the tactics and technique of car racing.

Peak Performance
All the topics we have thus far discussed tie in together. The racing line is directly connected to the driver’s skills, to the smoothness of his/her execution of braking, accelerating, steering and changing gears. It is connected to the driver’s mental and physical ability to process all situations at hand and the nerves to react. The racing line will also depend on the condition of the road surface, the oversteering/understeering tendencies built into the car, the tire performance, the horsepower under the hood, the wind conditions and of course on the location of the other cars and the location and direction of the next turn. This shows you that it can take a lifetime looking for the best racing line for each corner. The same goes for skiing, and life in general.

In order to make something worthwhile out of this article, we will deal with taking a 90-degree corner in a centrally balanced vehicle, on a dry pavement where tires have a good grip, and the next corner is so far away, that it will not affect the strategy of taking the discussed corner. There is also no cross wind and you are the only one on the road. On bikes it is called a time trial. In skiing, it is a giant slalom. It is also important to recognize that a car can brake faster then it can accelerate, the same in cycling and skiing. This means that you push the brake only if you have to and as little as possible. With all this in mind, we will brake down our discussion into the following zones that range from just before to just after taking the corner:

- Acceleration zone (prior to cornering)
- Pedal transition
- Braking zone
- Gear change
- Turn-in point
- Neutral throttle (or so-called trail braking)
- Apex point
- Acceleration (after hitting the clipping point)
- Full power

**Acceleration zone.** With the exception of taking a corner, in order to get best times on the track, you must either accelerate or brake. There is NO coasting. If you coast, then you are loosing time. This means that if you are coming onto a corner, you accelerate all the way to the braking zone. You need to use the maximum throttle up to the very last point. Then you need to hit the brakes. But before you can do that, you must change pedals.

**Pedal transition.** There are a number of ways you can reduce the time it takes to change pedals. Of course, less time it takes, longer you can accelerate before the corner. If you wait too long, you might fly into the corner too quickly and not make it.

**Braking zone.** This is the moment when you apply brakes. Push hard. The forward weight transfer might lock up your wheels or activate ABS system. This is usually not a problem since at this point you are still going straight. You just need to plan ahead because you need to do most of your braking **before** you turn the steering wheel. If you take too long before you start to brake, you will end up having to brake harder and longer causing you to have to turn sharper resulting in a slower line. So, as we said earlier, stop braking as you turn in, that is the point when you turn the steering wheel. It should be noted that great racecar drivers will apply brakes gently all the way until the apex in order to keep the pressure on the front wheels, especially when their car has an understeer set-up.

**Gear change.** You need to change to a lower gear before you go into the corner. You should choose the gear that you will need when the acceleration out of the corner comes up. Try changing your gears so that car does not face unwanted jarring and weight transfer. Be very smooth.

**Turn-in point.** This is when you turn you wheel in an attempt to take the corner. Look at the illustration. In order to keep the car under control, the move which you start turning the steering wheel must be extremely smooth and progressive. The line you take should involve tightening the steering lock until the apex and then unwinding it. There should be no additional need for steering movements. You should stay on a smooth line.

**Trail breaking** is the fine-tuning of your braking from the point of turn-in to the apex. You need to consider doing this if your car is prone to understeer, or you did not brake enough before your turn-in point, or you are just so good you can do this on purpose to speed up your cornering. Remember, if you go into the corner much
too fast, you will jeopardize a good line for trying to save yourself from crashing or spinning out. The largest pressures on your tires occur between the turn-in point and the apex, so know their limit. If your car is to oversteer or understeer in the cornering, here is the place where it most-likely will occur.

**Apex.** Apex (also called a geometric apex) is usually referred to as the center of the corner. It is half way around the corner. If your racing line is to go through the geometric apex, your steering lock should increase as you approach this point and decrease after this point, whereas throttle should be off as you approach this point and throttle should increase once you pass it. Keep in mind that the apex of the turn may be further around the corner then you can see. The danger of not making the corner is over after you pass the apex.

Remember, the idea here is to take the corner as fast as possible. Usually the shortest line around the corner (that is, hugging the inside line around the corner) is not the fastest way around it. You somewhat need to straighten out the corner the best you can. So, you will start on the outside of the turn and then aim at the apex, after which you will straighten out again. This way you can maintain a higher speed then making a sharper corner along the inside of the turn. Making a symmetric turn will let you maintain momentum (good path if the car is not very powerful), it will maximize fuel economy, put least amount of stress on your tires, and reduce chances of oversteering or understeering. But, this is usually NOT the quickest way around the corner.

To minimize your time in making the corner and having the best time in the racecourse, you need to accelerate earlier then at the geometric apex point. Remember, you can slow down quicker then you can accelerate and the higher the speed *out of the turn*, the quicker you get to the next turn. This brings us to something called the **late apex**. Since ultimately you want to have the highest possible exit speed, you need to increase turn radius at the end of cornering. This way you can get to the throttle early. In order to accomplish this, you need to get to the closest point to the inside of the turn, called the *clipping point* later then the geometric apex. This clipping point is referred to as a late apex. Using this modified race line may not be the best choice if your car is weak, and if you do not want to put excessive stress on your tires. Going for the late apex may be also more difficult due to anxiousness. When a corner comes, we want to get right to it, and most-likely start steering toward the inside of the turn too soon, especially when we do not know what lies behind it. None-the-less, to go through a corner as quickly as possible and getting out of it with the highest possible speed, you need to follow the line which hits the late apex. Look at the illustration. Note that this line allows you to start your turn-in later, so you can take advantage of full throttle a little longer before the turn begins. Then you hit brakes hard, steer quickly while you are moving the slowest from all the points along the turn, and then hit the gas before you clip the corner. Go wide at the end.

**Acceleration** starts at the apex or just before it. This is when your steering lock starts to decrease. Progressively increase throttle until the point of full power as you exit the corner.

**Full power** should be applied as soon as you can going out of the corner. Then the time comes that you need to position yourself properly to set yourself up for the next race line through the corner yet to come.
Note that late apex maximizes the acceleration out of the corner and into the following straight. For contrast, there is room for early apex in car racing as well. You normally will go for early apex if the straight before the corner is a lot longer than the straight following the corner.

I am certain that as you were reading about the racing cars and their racing line, you imagined yourself in a giant slalom race going around the gates. Yes, the road around the gates is wide and has a lot of turns, so car racing line will be very similar to that down the slalom course. Let’s briefly talk through it. You come to the beginning of the turn as quickly as possible positioning yourself so you can set yourself up for a fast racing line, so you are on the outside of the turn. You do all your necessary braking (if any) before you start your “cut” through the “corner.”

If you are going to go with a geometric race line, then you clip the gate when your skis are in the fall line. This point is called the apex of the turn. As we discussed in car racing, there are advantages and disadvantages to this line. This line is easiest to see. You look at the gate – you go for the gate, and most-likely you turn in too early. But, one smooth sweep might just do it. The negatives to this line are:

- You end up going around the gate too slowly because you entered in too fast and too straight.
- You will need to do serious steering right at the place where the slope is the steepest, especially when the ruts form. (This may not be so bad. Steve Mahre, the 1984 Olympic Silver Medalist in slalom, was the master of shooting straight at the gates and then performing, so called, “whitepass” turns very successfully.)
- You end the turn too low and you are late for the next turn.
- You do not have adequate acceleration out of the turn. Especially not good before the entry to the flats.

A better, quicker line is when you clip the gate at a late apex point, that is, most of your turn will be done before you get to the gate. This means that you will need to set up your turn up high and do most of your steering when you are moving the slowest, that is, before you point the skis down the hill, or while you are pivoting in order to point the skis down the hill. Therefore, your line toward the gate starts up high above the gate. Then you lock your edges and go for the late apex. That is, you go through the fall line much before you clip the gate. This way you are on locked high edges as you pass by the gate without fear of lateral slip at the steepest point of the turn right where the gate is, since you cut it at an angle. The bottom line is, in order to get around the corner the quickest and to carry the most speed out of the corner is for you to get to the “comma” turn line the quickest and then cut in the edges. By delaying the turn-in point, and beginning the turn with slightly sharper bend, you straighten out the second part of the turn, allowing the gravity to pull you harder and earlier. You might end up going a longer distance, but your time will be shorter. When you do it right, the higher speed will actually feel like you are going slower. Replace anxiousness by smoothness, and reap the benefits. Good luck!

**Thoughts for the Month**

- What makes you get out of bed in the morning? What is it that drives you through the day?
- What are the “comma” turns and what are they commonly used for?
- Why was the first “shaped” ski in the early 1990’s called *parabolic*, and why are they not called this way any more?
- Last month I formulated a question pertaining to the path that takes you the quickest way from point A on the slope to point B down the slope, where B is not directly below A. Since many of our readers thought it was a trick question commenting that there might be a cliff, a tree, a rock, a huge bump, a deep rut, variable snow, another person, etc, I will rephrase my question. You are on a very firm snow. Slope is empty, clear and smooth. Only gravity is acting on you when you are skiing down. You are standing at the point A on the slope and want to get to the point B down the slope, where B is not directly below A. Will a straight line get you there the quickest?
Elaborations on last month’s **Thoughts for the Month.**

**Question:** If you *look*, do you actually *see*?

**Answer:** NO. Don’t you ever look at your watch, but not really see what the time is?

**Question:** What do we mean by the term: *future outside ski*?

**Answer:** In the transition from one turn to the next, the *uphill* ski is the *future outside ski*.

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**This and That**

**DID YOU READ ABOUT IT?**

In the recent newsletter on [about.com](http://skiing.about.com/b/2012/10/20/local-cows-to-power-killington-gondola.htm?nl=1), Mike Doyle wrote how this winter season K-1 Express Gondola at Killington, Vermont will be powered by electricity generated from cows on Vermont dairy farms. It is a very interesting article and I encourage you to read it. You can find it on


So, now, go and consume more milk products.

**NORTH CAROLINA CHRISTMAS TREES**

The North Carolina Christmas Tree Industry is ranked second in the nation in number of trees harvested. Nationally, Oregon ranks number 1, producing about 9 million trees per year, followed by North Carolina at 7.5 million trees. Washington is tied with Michigan in third, producing about 4 million trees per year. North Carolina’s best are Fraser Firs. They grow about one foot per year and are so soft you will want to hug them.

The 19-foot Fraser fir out of Jefferson, NC was picked to deck the halls of the White House this year. It will be displayed in the Blue Room during the holidays.

**TO THOSE NEGATIVELY EFFECTED BY SANDY**

Our Sugar Mountain and some others positively benefited from the October’s Hurricane Sandy. Our slopes opened on Halloween, earlier than ever. But, everyone has truly felt for all of you that were negatively impacted by this historic storm. Just to show how bad some devastations were in your area, we are including several photos on the next page. Our hopes are that your lives will get back to normal just as soon as possible. Of course, for some this will never happen. But, remember, you can find positive things in every situation. May God bless you!!
Announcements

• Sugar Fest is December 7 – 9. Look for the whole list of exciting activities on http://www.skisugar.com/sugarfest/. Highlights are: Adult Preseason Ski Clinic with 1994 Olympic Gold and Silver medalist, Diann Roffe as this year’s celebrity coach, equipment demos on Saturday and Sunday, and 1992 Olympic Silver medalist Paul Wylie’s ice skating show on Friday, just to name the few.

Pet(s) of the Month

And who said that dogs and cats have to fight? Yes, our dog at first wanted to eat the baby cat who was not one bit afraid of the dog. But, with our obvious love for both animals equally, they learned to love each other as well. Isn’t LOVE a wonderful thing? Doesn’t it make everyone happy and more productive? I hope you all show your love and foster it everywhere you are and to everyone around you.

Everyone has a waterfront property

Wouldn’t you be hiding too?