

Product Improvement as a Tool for Competition in Austrian Ski Schools: The Case of Ski School Toni Gruber

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ABSTRACT

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As skiing practice has not changed much in the past decades, an improved product is a necessity to be competitive in the market. The purpose of this study was to develop a new ski-instruction approach in the children's market. A selection of 777 children over two consecutive winter seasons were taught in the first season with a standard instruction approach and then an improved instruction approach based on neuroscientific findings in the following season. The results of the study were that the improved approach significantly developed not only the speed of learning, but also the overall achieved skiing and satisfaction level. Traditional parameters (group size, ski length, etc.) are not as important as previously considered. By setting the focus for a succeeding ski lesson more on social skills (capacity for teamwork, cooperation, motivation, empathy, and interaction) children satisfaction can be improved.

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1. Introduction

It is obvious that most of the offers from the ski schools are identical and replaceable. As skiing has not changed much in the past decades, an improved product is a necessity to stay and to be competitive in the market. Most of the ski schools place greater emphasis on external factors to be different; however, the core product remains the same. Contemporary skiing instruction can be a source of differentiation; therefore, contemporary scientific findings of learning should be injected into the teaching methods. An important part of the product is the quality of the instruction.

The aim of this study is to develop a new and differentiated ski instruction approach to tap the full potential of the youth market in Austrian ski schools. This study scrutinises the factors that

influence the product ski lessons. A new approach for instructing children to ski within an Austrian ski school has been developed according to the most up-to-date educational methods based on paediatric neurology and pedagogy. In order to achieve this goal, the Ski School Toni Gruber was selected as the case study organisation. The new learning approaches have raised the need for study regarding the effects of emotions and relationships on a ski lesson. It would be very valuable to learn if a new, differentiated approach of instructing children, according to the modern educational methods based on neuropsychology and pedagogy could have a positive effect on their satisfaction and thus strengthen the position of a ski school with a new high quality product and an improved brand image. Consequently, the following research questions were considered:

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Research Paper



1. Would a new ski-instruction approach for children, as this is the prominent market segment, based on neuroscientific findings lead to more customer/child satisfaction?

2. What factors of a new skiing instruction approach must be considered to attract more customers/children?

2. Literature Review

New Curriculum and a New Approach to Quality

For decades general ski lessons consisted of a ski instructor in front of a group of 10-12 people forming a snake of learners zigzagging down the slopes. This was quite reasonable for the first few in the snake, but the longer the snake was, the less the children would profit because the model for skiing would be the individual in front, perhaps an even worse skier. Clever ski instructors may rotate the snake so that by the end of the day everyone would have had the chance to ski behind the ski instructor at least once. One of the biggest challenges is the gap between the needs of the individuals and the group. The task for a ski instructor is to create a supportive environment for each individual, to fine-tune different offers on the different needs of learners, and to combine this with an amusing experience for the whole group. These efforts necessitate the ability to differentiate and competently diagnose the status quo and the individual needs of each child in a challenging skiing environment. Therefore, the optimum would be to create individual ways of learning for each of the children and form a learning environment where children can have a self-reliant learning experience within a highly heterogeneous group of individuals. Within the framework, each instructor needs to create opportunities in which each learner can maximise her/his success and learn in a satisfying way. Successful learning is a mixture of individual and cooperative work (Dyson and Casey, 2016). In this context, social-emotional relationships become essential. At this point, 'learning on models' and 'follow me' approaches have become important. By watching and imitating others, we learn language, attitudes, orientation, sympathy, autonomy, aggression, and

motor-skills. This is where mirror neurons come into play (Brucker et al., 2015; Iacoboni, 2009).

Mirror Neurons

Mirror neurons form in the brain of an observing person, not only actions, but also sentiments and emotions. Out of these elements, mirror neurons form finally an overall picture that we gain of others together with their emotional attitudes, their motivations, and their strategies. People, whom we are dealing a lot and intensively with, leave in us a sort of picture that changes us and even, can become a part of us (Bauer, 2007, 24-25).

In the learning process, a new motion is stored in our brains as well as how the action feels. The better we feel while learning something, which depends, for example, on self-effectiveness and the reward we get out of it, the faster we learn. The overall experience of a successful ski lesson can be improved drastically. In this regard, a competent, well-trained ski instructor is thus seen as the key driver of improved ski instruction and the creation of positive emotions and a supportive learning environment. However, that is easier said than done, because intensive research on the functioning of the brain and the discovery of mirror neurons shed a different light on current views.

Neuroscientists have been researching how our brains work as an isolated organ in a single individual but not in relationship to others. They were not looking for the way we intuitively share our experiences, our thoughts, or emotions. However, with the discovery of mirror neurons that argument has changed completely. These unimposing neurons amaze with their double functions. They discharge while coordinating goal-directed actions, no matter whether an individual performs them or just watches others (Billard, 2001; Immordino-Yang, 2008). According to that, they are found in the areas of the brain where actions are planned and initiated, for example, in the primary motor-cortex where they have the task to plan and coordinate complex motion sequences (Rizzolatti and Craighero, 2004; Mattar and Gribble, 2005). The scientists from the University of Parma (Gallese et al., 1996)

discovered that by just watching other people doing certain motion sequences (that is violinists watching other musicians playing a concert), areas in our brains were triggered that are combined with motion sequences. This means that simple observations launch an inner simulation, an imitativeness of foreign actions. When a pianist listens to piano music, neurons in areas in the brain that control and coordinate the movement of the fingers would fire the same way as they would if he/she were playing the piano. In the course of research over the past 20 years, it has turned out that the phenomenon of mirroring other people is of central importance for gaining and passing on knowledge. It is the key to detect the intentions of our counterparts, providing information about what the people next to us feel and allowing us to sympathise with their joy or pain. In sum, it can be said that mirror neurons are the basis of emotional intelligence. They are the neuro-biological reason for empathy and provide us with the ability to love. Mirror neurons build a sort of social resonance system, which is activated by watching others' gestures and facial expressions (Gallese, 2001). Mirror neurons can be found congenitally but form between the ages of three and four. Mirror neurons have a neurobiological correlation with 'learning on models' (Zemlin, 2013), and they are the place where all knowledge based on experience is stored. They are exceptionally important for teaching and learning. Furthermore, they are not only responsible for knowledge transfer between persons but also from generation to generation (that is cultural knowledge) (Iriki, 2006; Immordino-Yang, 2008; Arbib, 2011).

No matter whether these findings really influence the way we learn new things or understand others' emotions by creating an inner movie in ourselves, they have led us to rethink the way we have taught skiing for decades, towards a more modern, customer-centred approach. For this reason, customer satisfaction to tap the full potential of learners in Austrian ski schools should be looked more closely.

3. Research Methodology

Study Design

The empirical study was designed as a longitudinal study of two samples of children, who visited the ski school in the winter seasons 2012/13 and 2013/14, in order to evaluate the skiing progress and customer satisfaction with two different skiing curricula, the standard skiing instruction approach in the first season and a differentiated new instruction approach in the following. It contained, on one hand, an evaluation of their progress in learning how to ski over a period of three days for each group and, on the other hand, a questionnaire that examined the satisfaction of the customers with the ski lessons. The focal point is the determination and comparison of the differences between the results of the conventional method and the changed skiing educational method.

Participants of the Study

For the field research, a sample of juvenile skiers (between 8 and 18 years of age) being part of English school classes, as they represent the most homogenous sample of children in every season, over the winter seasons 2012/13 (n = 369) and 2013/14 (n = 408) were recruited (December 2012 to April 2013 and December 2013 to April 2014). The following preconditions of the sample were important. All interviewed respondents were part of the predominant market segment 'children', were participating in a ski course lasting five to six days. Therefore, they met the specification of a minimum of three days of skiing, and were part of an English school group. The English ski instructors are core personnel during a season and do not change between consecutive seasons.

Description of the Case

The investigation for this research was performed at the Ski School Toni Gruber, which was established by Toni Gruber (state certified ski instructor, snowboard instructor, and guide) in December 1989 in Austria. In an average winter season, a turnover of 391,500 euro can be achieved over a period of 18 weeks. High season periods are around Christmas, February (half term), and Easter. The number of employees

varies per week between 20 and 110. Additionally, two secretaries are employed, one half-time and one part-time. The Ski School Toni Gruber in Sankt Johann/Pongau offers a variety of possibilities to learn or improve technical skills in skiing and snowboarding. Lessons start from a minimum of a one-hour private lesson up to six days of group lessons with a maximum of five hours of instruction per day. Children are instructed in separated classes either in skiing (Alpine, cross-country, telemark) or snowboarding.

The Customers and Market

There are two main customer groups: children and adults. Children come mostly from England, Germany, the Netherlands, Denmark, and Austria. Children ski lessons start at about three years of age (kindergarten kids) and go up to 16 years of age. Adult lessons start with 17 years of age and are not limited upwards. Although most of the people learn to ski in their childhood (Arbesser et al., 2008), it is quite interesting to see that obviously only a few ski schools really concentrate on and give their attention to this group of customers. Only a few ski schools in Austria focus specifically on children, although each ski school has its own children ski area where several ski instructors look after the children. The prices of ski lessons are not substantially different in the offerings from all the ski schools.

Problem Statement of the Case

The management of the school has decided to differentiate the present instruction approach. Their first thoughts about improving the ski schools' curricula were mainly about optimising extrinsic/external/technical factors like ski length, group size, time, etc. They conducted a survey with a focus groups to figure out what measures must be taken to increase progress and fun in skiing. They founded expert groups that made suggestions that they thought would benefit the customer. In the end, it turned out that none of these measures would be interesting enough for the customers. The speed of learning how to ski was considered by the ski school managers as one of the main factors for enjoying ski lessons.

Unexpectedly, people indicated that the quality of ski lessons made them more valuable for them, not the speed of progress or the achieved skills or difficulty levels, which the managers and other experts thought would be important. Customers explicitly indicated that they should focus not on the packaging, but on the product itself (ski lesson).

Procedures of the Study, Data Collection, and Evaluation

In a designed questionnaire, a number of demographic criteria were collected. These variables (age, body height, weight, gender, ski length, group size, ability, etc.) have generally been considered essential for making progress in learning how to ski. The 'progress tool' consisted of the basic milestones in learning how to ski counting from A upwards to Q, which was filled in along a timeline of 15 hours.

Table 1: Basic Skills and Milestones on the Way to Skiing

Beginners	A	Get familiar with equipment, carry skis, put them on, etc.	
	B	Improve balance, exercises left/right, up/down, with and w/o poles, schussing	
	C	Snowplow, controlled stop	
	D	Left and right turns	
	E	Linking turns	
	F	Use of ski-lift (preparation, information, exercises in flat)	
	G	Improve snowplow and turns, pick up speed	
	H	Use of chairlifts	
	I	Ski longer blue runs	
	Advanced	J	Use of edges, side slipping
		K	Traversing
L		Carving Basic	
M		Use of ski-poles	
N		Parallel Steering - long radius	
O		Parallel Steering - short radius	
P		Carving - long radius	
Q		Carving - short radius	

By means of the standardised scale/scheme, the children's progress could easily be assessed by specially coached instructors, rendering reliable results that could be easily reproduced. The basic assumption to achieve more customer satisfaction and subsequently a bigger market share was a changed instruction approach. There are only a few variables that influence the progress of the

learning how to ski. Among them, ski length in relation to body height, the group size, as smaller groups would mean that the instructor could teach each child more, and finally the time factor, as it was assumed that faster progress would also mean higher satisfaction. Therefore, the designed survey measured the progress over a three-day period and put this progress in relation to the skiers' ability at the beginning (beginner or advanced) of the course, the ski length, and the group size. The three-day period is considered by the ski instructors as the time a fit person of average talent would need to advance from beginner to advanced with the help of a highly qualified instructor. On an evaluation form, the ski instructor rated the progress over a period of three days, each day having five hours of ski lessons. Fifteen hours of instruction should be the average for learning and teaching the basics.

Ski lessons were anonymously rated by the children after the last day of their course by a form containing questions that were considered essential by an expert group prior to the study. The child satisfaction questionnaire was handed out to the children who rated their experience of the last three days. Survey questions were designed based on a Likert scale with school Grades 1 to 4.

4. Results

Reliability and Bias

The results are considered reliable, as the skiing progress was evaluated in completely different weather conditions, sunshine, snowstorm, good and bad snow, over quite a long period of time (December 2012 to April 2013 and December 2013 to April 2014). In the beginning, the researchers thought that there could be a bias in the study, as perhaps some of the especially committed ski instructors would rate their children better by thinking that they could be complimented on their work. However, it turned out that their work was reliable, and the results completely met the expectations of ability distributions within an instructed group, as some proceeded faster and some did not. The replication of the results in the second season in the follow-up proved this. By maintaining anonymity in the satisfaction survey, it is ensured that the answers

were filled in correctly. The data collected remained blinded throughout the process. When evaluating the data of the first season, the researchers were cautious about the interpretation of the data because all customers were rather content with the services. Furthermore, the reliability of the questions by measuring the internal consistency with Cronbach's alpha has been evaluated. According to the SPSS results, the calculated alpha value was 0.711 that is considered as reliable (Nunnally, 1978: 245). Similar results in the second season back these findings.

Results for the Season 2012/13

A sample of 369 children who were instructed according to the 'old'/typical instruction approach was assessed in the winter season 2012/13 by their instructors. Before the age of 17, mainly girls were attending the courses, and 62 percent never previously stood on skis. Almost 62 percent of the girls wanted to learn how to ski, whereas in the advanced sample, the ratio of female to male was almost equal. On the other hand, beginners dominated the market. Almost two-thirds of the children (231) were 13 and 14 years old.

Table 2. Distribution of beginners and advanced children the season 2012/13

Gender	Beginners		Advanced	
	Number	%	Number	%
Female	140	61.4%	67	47.5%
Male	88	38.6%	74	52.5%
Total	228	100%	141	100%

Customer satisfaction was measured with school Grades 1 to 4. This was correlated with the highest skill level reached after 15 hours of instruction. Children who progressed less were unhappier with the course they attended. The main complaint was that children felt that there was not enough time. Also, a lack of personal progress was criticised.

Main Study Results for the Season 2013/14

After creating a new instruction approach, training the ski instructors beforehand and changing the focus to factors like personal interaction, a concentration on positive feedback and positive reinforcement, and the abilities that already work well, the researchers went out in the following season to test their assumptions. In total, 408

children were interviewed out of which 218 were girls and 190 boys (55 percent vs 45 percent). The average age was 14 years.

Table 3. *Distribution of Beginners and Advanced Children the Season 2013/14*

Gender	Beginners		Advanced	
	Number	%	Number	%
Female	168	57.9%	50	42.4%
Male	122	42.1%	68	57.6%
Total	290	100%	118	100%

Out of the more than 400 respondents, 71 percent were beginners, and their group sizes were 10.4 children on average, which was a bit higher than the advanced skiers whose groups had only 9.8 people on average. While among the beginners, the female skiers represented 57.9 percent of the total, among the advanced skiers the ratio was almost vice versa.

The overall progress in the season 2013/14 was better than the previous season. The average skill level after a three-day course was ‘traversing’ (two notches higher than the first season level on the skill ladder; see Table 1), and the highest overall skill reached was ‘carving - short radius’, which was also a higher level than the previous year. The learning curve also showed no stagnation after 12 hours, but proceeded continuously.

Furthermore, the results showed an overall increase of customer satisfaction in the winter season 2013/14. The ‘sufficiency of time’ factor that was underlined in the first season was not considered significant in the subsequent analysis period. Furthermore, the average satisfaction of the children interviewed increased in every aspect.

5. Discussion and Conclusions

In the aftermath of the economic crisis in 2008, the ski schools have been considered a vital part of the winter tourism industry in Austria. They need to be overhauled in order to be better prepared for future crises. By scrutinising the ski school landscape, a complete standstill is recognisable by the absolutely interchangeable offers, which would only differ in the colours of the ski school uniforms or the names of the ski school mascots. Placing emphasis and investment on logos, slogans, colours, labels are very common activities on the way of developing brands

(Guschwan, 2016). Therefore, in the beginning, it was very hard to determine the factors to renew and improve the existing product (ski lesson).

Discussion of Demographic Results

Empirical results of this study, observations, and interpretations provide insight for the industry and academic arena. Surprisingly, more girls than boys wanted to learn how to ski. Under 17 years of age, girls are the main customers. With the purpose of meeting the demands of the girls in a ski lesson, the focus on social skills and successful relationships is certainly a big advantage and can provide success and satisfaction opportunities for all parties. Furthermore, the researchers have learned that focusing on external factors like group size or ski length did not yield the result that children learned skiing faster nor were they satisfied with the ski lesson. The concentration on social skills, such as the ability to recognise the special needs of each child or to set adequate goals for a given situation is more important to a successful and motivating atmosphere than anything else. For the effectiveness of the instruction program, special educational needs of the children should be mapped and social skills play the key roles in this process (Vlachou et al., 2016). By tweaking only minor aspects in the workings of a ski school and its main product, namely ski lessons, the whole system will operate in a different way in the future. Since the training of instructors continues to take place according to the usual and proven standards in Austria, the ski school will develop an internal training approach after which their instructors will receive additional training. Instructional videos, especially developed training materials, weekly training sessions, or regular supervision could be a part of it.

For advanced skiers, ski lessons are probably not attractive anymore. In this study, the beginners formed the majority of children, and in the beginner group, the girls dominated, whereas the genders were almost equally distributed among the advanced skiers. One of the findings that will affect the daily work and the future design was that the most interested beginner group of ski lessons increasingly comprises female children; therefore,

the ski lesson must be tailored to this target group. How this might look in the coming seasons will be a challenging question to answer and perhaps the subject of future research. On the other hand, the ways to increase motivation for male children to attend the lessons can be another question for further researches.

Progress between the Seasons: 2012/13 vs 2013/14

The evaluation of the progress showed in both groups that all children proceeded continuously until the twelfth hour of instruction. The reason both the advanced and beginner groups stagnated in the following three hours in the first season is difficult to determine. During the second season, with differentiated instruction approach, there was no stagnation, and the children medially progressed until the end of the instruction. The learning curve of the advanced skiers varied more than in the first season, and the progress curve was roughly the same as in the first season. The highest reached point on the skill ladder in the first season was 'skiing longer blue runs' (level I) among the beginners, and in the second season, it was 'traversing' (level K). By changing the skiing instruction approach, a better learning progress could be achieved, especially for the beginners. This proves that a safe and supportive environment produces significant successes among skiers that ski for the first time. This also proves the hypothesis that concentrating on social skills rather than on the technical skills of the ski instructors could increase the quality of the ski lessons for beginners.

Comparison of Child Satisfaction

The concentration on the new instruction approach in the season 2013/14 brought a significant gain in customer satisfaction. While in the first season 'lack of time' was criticised, especially by children who were not advancing as fast as they may have hoped, satisfaction in this area could be improved. This is especially interesting because the newest trend in instructing is 'to learn skiing in three days'. Applying the old and countrywide taught curriculum in the first season did not please those who obviously needed more attention and

perhaps more time. By offering a ski lesson tailored to the special needs of each child in the second season, the instructors were not only able to achieve better progress, but also made the customers happier, which in fact is clearly connected. The researchers also found with the old instruction approach that children (who were not progressing well) were disappointed enough to not want to repeat ski training as offered. With the modified instruction approach, the practitioners could also meet more of the expectations of the customers, not only as a remarkable jump in the children's learning progress but also in the children's self-satisfaction about their progress. Therefore, more children, at the end of their first three days on skis, considered doing it again, which was a big success.

This study aimed to discover a differentiated ski instruction approach that would increase the child satisfaction level. With this goal, the determinants that affect child satisfaction should be discovered and assessed. After a disappointing pre-study, the researchers proposed a new ski school instruction approach over the seasons 2012/13 and 2013/14 by differentiating the core product, the ski lessons, focusing on the individual needs of their customers. Many employees in the case study organisation (Ski School Toni Gruber) were involved in the implementation of surveys and new workflows in their courses. As a ski school, they have learned a lot of from the results of the studies about the needs of their customers by questioning supposedly important things and setting new priorities. A new culture of mindfulness arose out of which a new focus on quality for customers has emerged. The managers had to deal not only with the maintenance of day-to-day operations, organising staff, and checking the weather, but also with things like teaching with books on neuroscience and education. They adopted new scientific results not only theoretically but allowed the knowledge flow into the daily work of the ski school and altered the whole ski school approach.

Communication and positive interaction with children were neglected in instructing in the last few decades. Setting the focus on social skills

seems quite a logical point; however, having scientific proof is something different. Although there is a trend in the tourism sector in the last years that customers book shorter stays in their destinations to be more flexible, it could be shown that the answer for the ski schools to this trend with the reduction of course time down to three days is good marketing, but customers are not necessarily happy with the outcome. The 'learn skiing in three days' paradigm of the last years is an unsteady development, perhaps in the wrong direction. It could be shown that all children in the groups did progress steadily over the period of three days, but especially the weaker ones were unhappy. By differentiating the curricula, they could largely avoid this. This approach is necessary to be able to motivate children to visit a ski school repeatedly in a highly competitive market within interchangeable offers and competitors.

The discussion below comprises limitations of the study and recommendations for the industry and for the future studies.

The 'progress tool' has proved a valuable progress management tool. It would be interesting to see in future research which teaching methods are most effective, and consequently incorporate them into a new standard. Certainly one could envision ways to offer even more personalised lessons in groups, because the currently offered ski lessons sacrifice weaker children for the progress of better and faster learning. A follow-up study on the special different requirements of male and female skiers can also produce very valuable results. A good product is only good if the weaker are content with their outcome in the end. For most instructors, it is probably more fun to work with better children, as they reflect the efforts of the instructors better than the weaker ones. However, the challenge is the less quickly progressing children.

Furthermore, as the study developed a new skiing instruction approach for children who skied for the first time, the new approach can be transferred to adult beginners. After changing the ski school's concept gradually in the next seasons, it will be exciting to see how well this approach is accepted by customers. More content customers will

certainly influence the working atmosphere in the team, which in turn will definitely lead to happier customers, which can create a spiral effect that hopefully will lead to a higher turnover and a bigger market share.

According to the steps of developing new products, it will be a big challenge for the management to develop strategies out of these empirical findings for a consistent marketing concept to commercialise the new product. In that perspective, it would be obvious to do further research in order to determine whether it is possible to gain sustainable market share increases using the new ski school instruction approach. It will also be interesting to see how the competitors on the market will respond to Toni Gruber's new offer, since there has not been a change in their offers for years, except the ever rising prices and slight changes in the make-up of the companies. A concept that focuses on the core product, the ski lesson, has not been seen in years. A change in the curricula of the last decades was mostly a response to the development of external factors, like the invention of carving skis or the ever more popular 'new school' movement. The results of the study could initiate a broader discussion of the needs of the customers. Although the overall satisfaction with the offered services was rather high, a service provider like a ski school needs to develop answers that deal with dissatisfied customers and find strategies that prevent problems in the first place or that solve them after they have happened.

New business models grew in the last years that franchised pre-designed ski schools with special mascots for better recognition value. In contrast, it could be interesting to develop a special Toni Gruber teaching method and eventually licence it to other ski schools in the future, if the approach is successful and offers a significant additional benefit. Designing a franchise-concept could be a worthwhile goal for the company in the coming years.

6. References

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