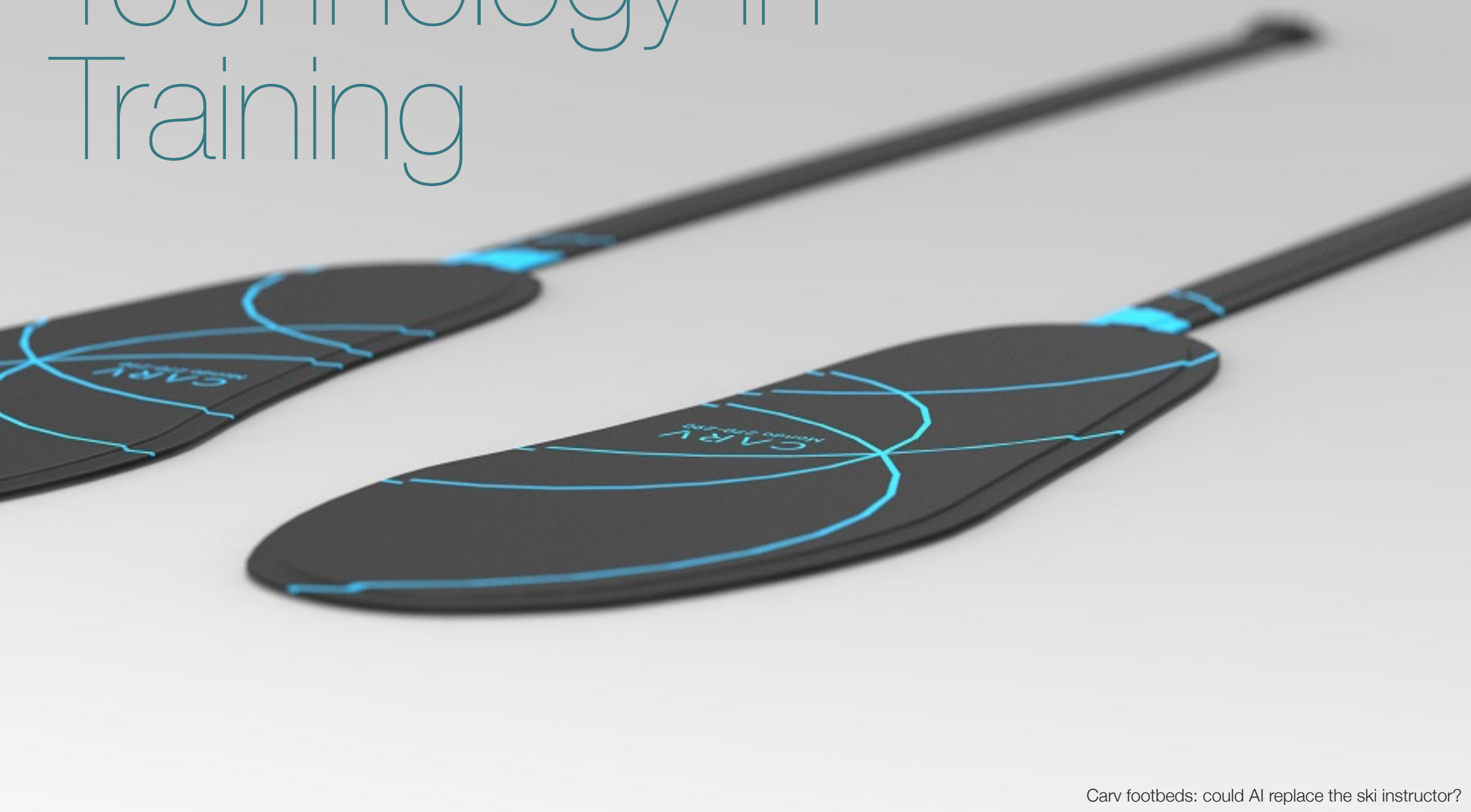# Technology in Training

Carv footbeds: could AI replace the ski instructor?

Technology as an aid for instructor training?

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Global technological advances of recent years have revolutionised almost every industry on the planet. The ski industry hasn't been excluded or left behind.

The development of web 2.0, the growth of social media and the explosion of mobile devices are three key areas that instructors, ski schools and training/grading bodies are now exploiting to improve the services they offer.

Instilling this use of technology, not only to stay competitive but to add real value to the products and services with offer, should be instilled with instructors during their training.

It's only right that the APSI leads by example and this piece aims to look at how it's already taking advantages of technology in its instructor training (✔) and ideas for how emerging technologies could add further value (➡). It loosely uses the concept of the Nine Lesson Essentials to explore the context of where different technology is used by the association and its trainers/examiners.

Introduction

✔ Manual & complementary online video clips.

➡ Online copyrighted manual access. Online pre-course, interactive learning material, including videos introducing key personalities/staff at the APSI.

Goal Setting

✔ Online images and video inspire students.

➡ Online pre-course learning resources could help identify a student's strengths and weaknesses, which in turn could help them negotiate their goals with the trainer earlier.

Planning the Lesson

✔ Online course resources for trainers. Supplemented by example video sessions and the APSI App. Maps, weather and online resort information can be accessed in real-time, on the mountain, using smartphones.

➡ Specific teach-to-teach sessions may also be helpful for Trainers in their planning and preparation.

Presenting Information

✔ See above for the app and online videos, where the APSI is already a leader in its industry for digital content.

➡ Apps for drawing/sketching on a phone or tablet, and for note sharing. Powerpoint presentations.

Demonstrations

➡ Trainers can use online video content to augment live demonstrations both on hill (smartphones) and off hill (presentations).

Practice

✔ Technology in the equipment setup. At an instructor level this should include custom footbeds and proper boot alignment.

➡ SkiA Sweetspot Trainers and other learning-aids can help with learners develop intrinsic feedback channels/loops.

Movement Analysis

✔ Videos analysis can be done on the hill, at the actual time, and indoors on a larger display, using apps like Coach's Eye. APSI's movement analysis video clips are used in training and assessment of MA.

➡ Trainers working with students over a longer time period (like a coach/athlete relationship) can use online apps like Sprongo for feedback and progress tracking. In the right environment, it can be set up live so students can watch their video wirelessly on their way back up the lift. Like Dartfish, Sprongo also has video overlay options. These apps can be costly, however.

Feedback/Correction

➡ Carv, a wearable smart insert, is probably the first artificial intelligence device that tries to help people ski better. It's in its early days but has backing from several notable World Cup athletes and coaches. It uses 48 sensors in two footbeds to provide feedback to skiers about their balance and pressure across the feet. Along a similar vein, Rossignol has teamed up with Piq to launch a 'connected ski' with a live display on the top sheet relaying information and feedback to the skier. It's here that technology is starting to move from MA into feedback/correction in itself.

Lessons Summary

✔ The APSI App is really a really useful resource for assisting instructors in their continued development beyond courses and in the workplace.

➡ Technology could be used to compile and deliver recorded action plans could be provided to students following a course. With smartphone technology, these could take the form of notes, images, video or dictated/recorded speech, and distributed online.

Anyone can buy an app online to tell them how to ski. But that is not 'teaching' someone how to ski. The value we can add as instructors is much to do about using:

- Situational awareness to lead and maintain the safety of the learners
- Social skills
- Communication skills
- Understanding of performance
- Understanding of learning

In order to:

- Keep learners engaged and having fun (introduction onwards).
- Set the right levels of challenge (goal setting, planning, presenting).
- Choose the right terrain (practice).
- Demonstrate in a live environment.
- Gather information/observations about a performance from a range of appropriate sources (MA).
- Applying our knowledge and understanding of skiing to evaluate the performance (feedback) and our understanding of learning to develop that performance (correction).

At present, technology struggles to do these things. The the interpersonal skills, ability to reflect in the moment and make decisions in an open and every-changing environment lie with the teacher/trainer rather than with technology - for now at least!

Whilst it cannot yet replace instructors, technology can certainly provide a useful aid to teaching skiing and to training instructors.

Sprongo: Smartphone apps aid in several of the "Nine Lesson Essentials"