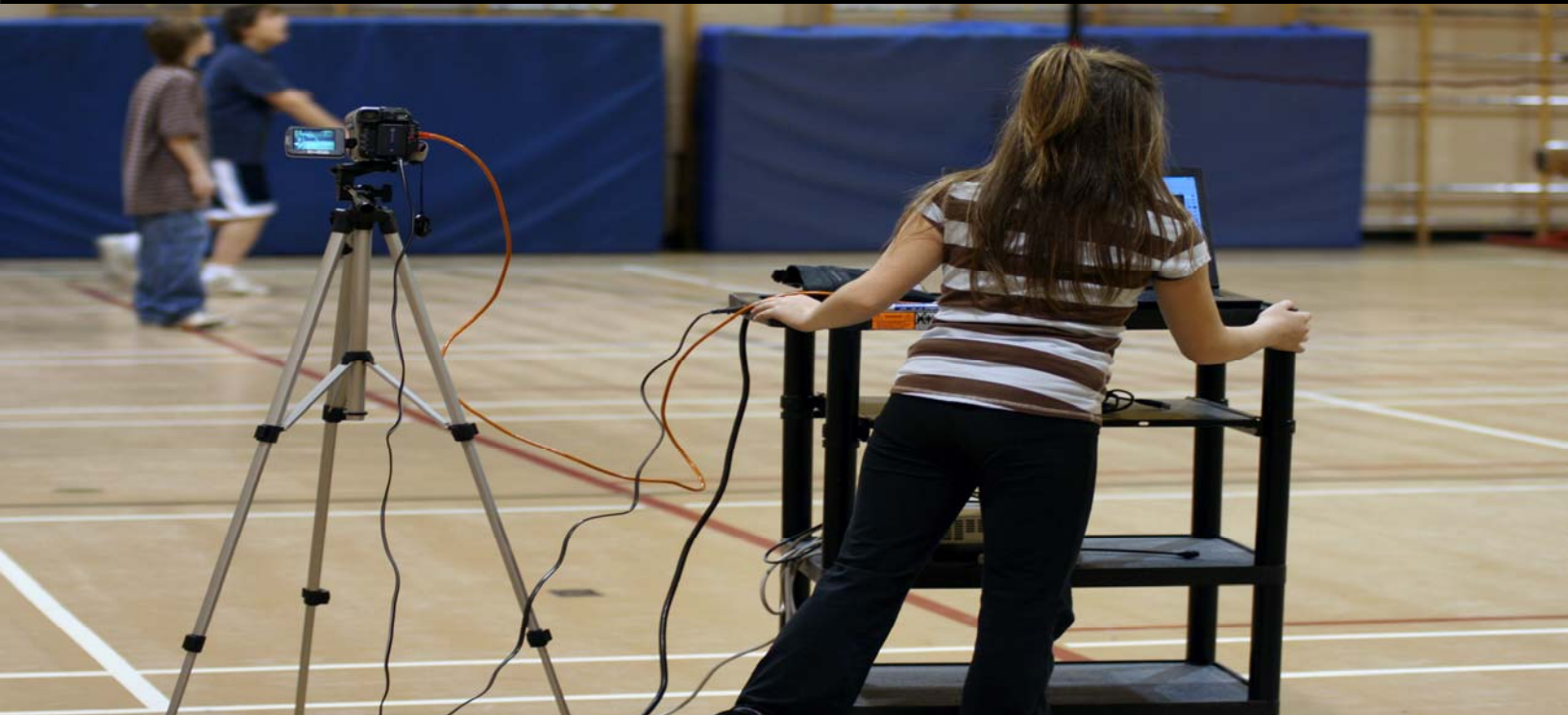


Dartfish Enhances Learning in Physical Education



FRAN HARRIS ENGAGES PHYSICAL EDUCATION TEACHERS AND THEIR STUDENTS IN THIRTY K-12 SCHOOLS ACROSS NEW BRUNSWICK, CANADA USING DARTFISH VIDEO TECHNOLOGY

Students are Empowered to Take Control of Their Own Learning Using Dartfish

Integrating Dartfish technology in physical education enhances learning. According to Harris, PE teachers create a learning environment where students are:

- Engaged in the learning process
- Encouraged to use problem solving and critical thinking skills
- Empowered to become self-regulated learners
- Encouraged to dialogue with other students and the teacher

Students are Empowered to Take Control of Their Own Learning with Dartfish

"Student self evaluation and self correction are both very efficient. It's like having a second teacher in the gym."

K-12 PE Teacher

LIVE DELAY, LIVE CAPTURE AND INSTANT REPLAY

Students learn best when they see themselves in action, and the feedback received from the New Brunswick PE teachers confirmed this. When using Dartfish, the software feature most used by the teachers was **Live Delay**. Easy to manage within a PE class, it provided immediate feedback to students. **Live Capture and Instant Replay** were also widely used. These functions not only provide immediate feedback, they also allow the teacher to save video clips for future analysis and to create **Mediabooks** - video learning tools which illustrate key skill positions for physical education instruction.



Teachers, especially at the elementary level, who normally set up various stations in their PE classes, preferred setting up an "evaluation station" using Dartfish. In these situations, students used Dartfish **Live Delay** for formative evaluation and occasionally with **The Live Capture** function, Dartfish was used for summative and/or formative evaluation by the teacher.



MEDIABOOKS - VIDEO INSTRUCTION TOOLS

For the four schools who also received the Classroom Connect Dartfish Software, having students create their own **Mediabooks** using Dartfish, proved to be very valuable for enhancing student learning. The video was broken down into key skill positions and then enhanced with drawing tools, text, and audio comments explaining how to execute a skill or movement correctly. Some schools had students share their **Mediabooks** with their parents during Parent-Teacher Interviews.

SEE. LEARN. SUCCEED. "These three words represent the philosophy and values behind Dartfish. If, in our PE classes, students can become better observers of movement and understand the theories and concepts of movement," explains Harris, "they will develop better movement skills. In turn these students will have the skills and the confidence needed to lead physically active lifestyles."

"Dartfish Software is an excellent way to integrate technology in physical education. This program allows students to evaluate themselves in a concrete way and to be aware of the importance of body position. It is an excellent tool for formative and summative evaluation." NB PE Teacher

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“A QUALITY PROGRAM”

states Fran Harris, “should allow students to develop fundamental movement skills, so they can be physically active for a lifetime. It should also **provide learning experiences that encourage students to question, analyze, reflect, communicate, and apply theories and concepts to motor skill development.**

The challenge in PE is using technology in a meaningful way, so that it enhances learning and achieves desired learning outcomes. While technology is often blamed for decreased physical activity in our society, technology can be used to our advantage to help students develop and refine motor skills. Research has shown that learning and retention of motor skills is improved by the quantity and the quality of feedback, during and after motor skill execution.

Unfortunately our eyes and brains cannot process information fast enough to see all the details associated with quick and complex body movement. With Dartfish technology, this problem has been solved.

Using Dartfish has allowed the New Brunswick PE teachers to develop active learners. These teachers no longer demonstrate to students what to do and how to do it and they are no longer spending valuable classroom time explaining to students what they have observed. Instead, teachers are allowing students to see for themselves what they are doing and making adjustments accordingly,” explains Harris. “Classes are no longer driven by “teacher-talk” and “teacher demonstration”.



TEACHING TIPS: When it comes to filming students, teachers have identified the following suggestions.

- > Ensure that the area where students execute the skill for effective capture on video is clearly identified.
- > Clarify key indicators, identifying clearly what you want your students to observe.
- > Written format works the best for performance indicators.
- > Use only one key indicator with younger students.

“Dartfish allows us to improve our techniques. We can also compare ourselves to other students. Sometimes we think that we are not good. When we see ourselves on video, we realize that we are good!” NB PE Student

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HARDWARE AND PRACTICAL TIPS FOR USING DARTFISH



Teachers identified the need for a media cart where they could have everything set up and the whole system could be easily rolled out, ready for use. A need for a media cart with an adjustable shelf was also identified, especially for K-2 students, who were having problems seeing themselves on the monitor. All schools participating in the project have now received their media carts along with two tripods, large and small, giving them more flexibility in setting up their video equipment.

In addition to the Dartfish TeamPro software, the teachers also received the following equipment: a video camera with a hard case, a tripod, a mini-tripod, a firewire, an external hard drive (120 GB), headphones, mini-DV cassettes, a 4-port USB hub and a media cart, on wheels with an adjustable shelf and a power bar attached to the cart.

TECHNOLOGY CHALLENGES

Some of the challenges encountered by the teachers were small in nature and consisted of the usual problems associated with learning how to use new software. With time, these problems seem to dissipate. Some teachers did create various analyses of the clips using the *StroMotion* and *SimulCam* functions, but many reported that they found those functions to be too time consuming. All of the teachers used Dartfish for evaluation purposes.

Classroom management and time management were two challenges identified by our teachers. At the high school level especially, teachers realized quickly that in order to use Dartfish effectively during PE, they had to change their ways of teaching. Instead of using full-sided games, teachers began using stations with small-sided games allowing for effective use of Dartfish within their PE classes.

As for time management, as the year progressed this seems to be less of an issue. Some teachers were just getting better at setting up the equipment while others had trained several students to assist them in setting up the equipment. Other time management issues expressed by the teachers involved the time needed to watch all of the video clips for formative and summative evaluation purposes. On many occasions teachers could only accomplish this from the comfort of their own homes. Nonetheless, all of the teachers who did this felt that it was worth their while, as it allowed them to give precise feedback and evaluations on the performance of all students.

The biggest issue for using Dartfish was technical in nature. The teachers' laptop did not have enough live memory to handle Dartfish. An additional 1GB of live memory will be installed in the laptops of the 38 teachers participating in this project and hopefully, this will rectify the problem for the upcoming school year.

FRAN HARRIS - Physical Education and Health Consultant with the Francophone Sector of the Department of Education, New Brunswick, Canada

After earning BPHE, MPE and BEEd degrees, Harris began her teaching career at the junior high/middle school level teaching for 13 years, before accepting her current position. In her role as Consultant, she has been responsible for the writing and implementation of Physical Education/Personal and Social Development curricula. Harris served 4 years on the Board of Directors for Physical and Health Education Canada (PHE CANADA) and chaired the Council of Provinces and Territories for physical education associations across Canada. Currently she serves on the advisory team for PHE CANADA and Sport Canada in the development of fundamental movement skills resources.



