Clark Quinn's "4C's" Put Into Practice
Using a Mobile App Pedometer in PE 10 Online

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SYNOPSIS

CHOICES PE (Physical Education) 10, is a locally developed online course, which is available to students in the Choices Distributed Learning program, in Port Alberni. This course strives to promote an understanding of the value of physical fitness and it aims to motivate students to participate in physical activities throughout their lives. Students are required to have access to wifi, and a computer or personal mobile device, to navigate through the online information links and to complete the online activities.

PE 10 combines online instruction assignments (30%) with actual student participation in regular physical activity (70%). Successful completion of the course requires a minimum of 100 hours of student-selected physical activities, with a maximum of 30 hours for any one activity. The eligible PE activities are divided into 7 categories including individual/dual, dance, games, gymnastics, alternative, courses and strength training. Students are encouraged to choose activities from a variety of categories.

Our mobile technology initiative will be focussing on student activity journals.

The learning outcomes addressed in the activity section of the course are
- participate daily in moderate to vigorous physical activity to enhance fitness
- demonstrate a willingness to participate in a wide range of physical activities

Submission of activity journals is an ongoing assignment, and students are given approximately one year to complete their 100 minimum hours of activity. Physical activities are recorded and described on activity journal pages , which are completed on paper and then submitted to the teacher directly, or scanned/photographed and submitted online.

PE 10 - MOBILE TECHNOLOGY ACTIVITY - DESCRIPTION

As part of their required activity journal hours, students will use a mobile technology app to record and monitor the number of steps they take in a day. Each student will be

required to set a personal goal, to ultimately be walking approximately 10 000 steps, 5 days per week.

- Usually, students enrolling in PE 10, are within the range of 14 to 16 years old.
- Each student will be required to supply his own mobile device such as an iphone, windows phone, or android phone. (Note: A wearable step-counter device will be loaned to any student without access to a personal mobile device.)
- Students will be given the choice of 2 'step-counter' apps per phone type, with the possibility of approval for an app they prefer.

RATIONALE

With the following change, we hope to make the activity portion of PE 10, more relevant and motivating to students by incorporating mobile technology. Students enroll in CHOICES PE 10, for a variety of reasons. They may be full-time DL students, they may have a challenge that does not allow them to fully participate in a traditional PE environment, or they may prefer to have more control over their schedule and activity choices. Fairly often, however, students elect to complete PE 10 online, because they do not like PE classes at their school. Often, these students do not normally get much activity at all and they usually prefer individual exercises to participating in a group or on a team. This initiative hopes to address this reality, by using mobile technology to focus on an activity that almost all students can do. This activity is 'walking'. It's easy to find information that emphasizes the benefits of walking, including improving your mental and physical health and helping you lose weight. Therefore, we think that it is important to encourage a good habit that students might enjoy and choose to continue to participate in, even after the course is completed.

The following chart adds further rationale to this mobile device activity using Clark Quinn's 4 C's.

Clark Quinn's 4 C's	Explanation
Content delivery to the learner	Students can access their PE 10 course from a computer, laptop, or tablet, but the course can also be accessed from different types of mobile devices including iphones, windows phones, and android devices. Most mobile devices enable students to view all images and text, and watch any attached videos or listen to any attached audio.

	For this specific activity, along with the assignment description within the course, two document websites will be provided online. Site 1, *Beginning a Fitness Walking Program* provides an explanation on how to start. Site 2, 10 000 steps, provides an explanation on how to set a reasonable goal and how to increase personal step counts. A YouTube video will also be provided *Why You Need To Walk 10 000 Steps a Day* to further explain the rationale for the activity.
Compute capability for complex processing and data access	A student downloads a free pedometer app to his/her mobile device. (Students will be able to choose an app, from the different phone options below. In addition, students can submit an alternate app choice for approval if they prefer.) Accompanying information regarding downloading and troubleshooting each app, will be provided via the attached links. Iphone: Fitocracy or Walker Windows Phone: Endomondo sports Tracker or RunMaster Pedometer Android Phone: Google Fit - Fitness Tracking or Movesum or Walklogger Blackberry: Sportrate Fitness GPS Tracker or CascaRun Sports Tracker The student carries the mobile device throughout the day and the device tracks all movement (input), calculates number of steps taken, then provides output to the student. It does not matter where a student keeps the phone. As long as the phone is directly or indirectly attached to the body during motion, it will give the number of steps. Also it does not matter whether the phone is kept straight or is upside down. With increased use, the student is able to set goals, and work towards increasing his/her activity on a daily basis.
Capture of the world, often in ways difficult for us	Each app has slightly different capabilities, but all of them keep track of the steps a student takes while moving. Each mobile app pedometer also captures the details like distance covered each day, and duration, and allows this information to be shared. Also, each app allows the student to review his/her performance after days and weeks to check for improvement.

	Many of the apps have additional functions and capabilities. For example, Walklogger can not only estimate the distance walked or run, but can also estimate the calories burned, total calorie consumption, set step, distance and calorie goals, and get activity log with detailed information about individual walks and runs.
Communicate with others	Most of the mobile apps allow students to share their progress on social networks and any other sharing apps that the student may have on his/her phone. Also, students can often automatically sync their walking and running to the cloud. Students are potentially able to communicate their progress with other students and with teachers through text, video, audio, or visual images.

DIFFERENCES

The current method for filling in activity journals, is for students to document their activity information by writing down the activity description and the time spent on the activity. Activity journals are expected to be submitted (handed in on paper, or scanned in online) every two weeks. Using their selected app, and their mobile device, students now have the option of having their device document their activity information including description and time, and then submitted the activity information to their teacher, directly from their device.

ADVANTAGES

There are many advantages to adding in this mobile option for students.

Motivation and Increased Engagement: It is likely that this option will motivate students to move more, especially if the app has a game-like platform. (Even without, students are likely to want to beat yesterday's total steps.) Also, some of the apps have built in motivational functions such as the screen changing colour when a personal goal is met, the ability for students to earn medals based on the number of steps they walk each day, or the unlocking of app themes by walking. (Example: Walk a total of 1000 steps to unlock a purple theme, 5000 steps to unlock a red theme and 10000 steps to unlock a green theme.)

Familiarity: Students are already familiar with their own technology and already use it on a regular basis.

Convenience: Students will have an increased choice of learning representation. Students will not have to remember to record their activity information on their activity journals. Their mobile phone app will automatically record their activity and it will present it in a manner that can be easily shared. There is no need to physically write down their activity on paper.

Timeliness: Students can get the right information at the right time. There is immediate progress information directly from the app, and communication between student and teacher can be more seamless and more immediate.

Extended Benefits: The mobile apps not only record a student's step activity, but they also provide a range of additional information such as allowing students to set a goal and also calculate calories burned, speed, distance, and progress.

Learning Extensions: Students may be inspired to use other apps to help them with other activities, such as JeFit, which supplies the user with descriptions and animations of hundreds of exercises that they can use at a gym, as well as allowing the user to create personal workout routines and view workout progress.

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