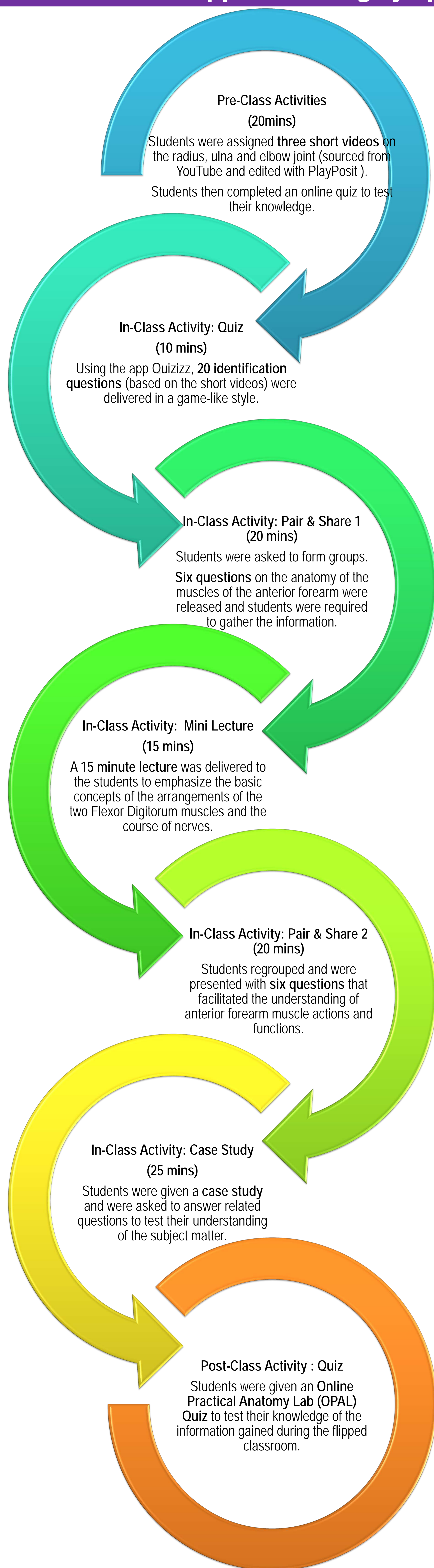




Flipping human anatomy lectures: Engaging students using digital media and mini lectures

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Research shows that the average attention span of students is currently between 15 and 20 minutes and steadily declines after the first 10 minutes (Briggs, 2014). With the introduction of emerging technologies, students are choosing to listen to recorded lectures rather than attending face-to-face lectures (Moraros et al., 2015). As for the students that do attend the lectures they are distracted by activities on their mobile devices. The pressures of work and family care have also contributed to non-attendance. Thus, a significant number of students only attend compulsory classes and hope to gain understanding from these short activities. A “new” pedagogical model emerging has now flipped the classroom - where the traditional lecture and homework are now reversed (Bergmann & Sams, 2012). In this model students are expected to complete a few short interactive activities to understand fundamental concepts before entering the lecture theatre. It is then in the lecture theatre that other active learning approaches are taken but this time at a teamwork level through case studies, debates, self-reflections and mini lectures (McLaughlin et al., 2014; Redekopp et al., 2013; Roehl et al., 2013;). Engaging students in active learning has shown to improve attitude and motivation to learn as well as stimulating higher-order thinking, problem solving and critical analysis (Shattuck, 2016). Also, given the time constraints inherent in all anatomy units at Western Sydney, where students receive a maximum of 40% face to face teaching each week, this teaching method gives students more opportunity to learn in a more interactive and intimate setting with the lecturer.

The aim of this pilot study was to engage students enrolled in musculoskeletal units in two different course streams using the Flipped Classroom approach by creating a few active learning opportunities and thus improving learning outcomes, and teaching the students to become life-long learners.

Activities: Students participated in **pre-class, in-class and post class activities** surrounding the lecture on the anterior forearm (see flow chart). Academic staff were present in the learning space to assist students with the activities.

Human Ethics Clearance: The project has received ethical clearance from the Western Sydney University Human Research Ethics Committee (H11860) to carry out a survey and focus groups regarding the experience of the flipped classroom.

Feedback: After the flipped classroom activities, the students were asked to complete a survey on the flipped classroom. This **survey** (Winning et al. 2015) focused on how students felt the teaching innovation facilitated their understanding of the anterior forearm content and how the approach could be improved. The survey is currently still available for students to complete.

Focus groups: Students have been given the opportunity to participate in a focus group. The focus group facilitator will ask the students questions from a script with the least number of prompts. Students will be able to talk about their experience after attending a flipped classroom. Responses will be recorded and transcribed.

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